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1999

NDIA

Tactical Wheeled Vehicles Conference How Healthy Is Our Fleet?

Proceedings

January 31-February 2, 1999

Monterey, California

Double Tree Hotel & Monterey Conference Center

Event #955

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INDUSTRIAL COMMITTEE OF TANK & AUTOMOTIVE PRODUCERS (ICTAP)

Dave Longley, Recorder United Defense

ICTAP CHARTER

TACOM and Senior Executives from industry PURPOSE: Forum for principal managers at to meet and review issues of common interest and concerns

OBJECTIVES:

- Forum for discussion and exchange of views
- Feedback from senior industry representatives
- Discuss DoD, Army and TACOM Policies
- Industry which affect readiness of tank/automotive Discuss emerging issues in Government and systems

ICTAP MEMBERSHIP

GOVERNMENT

- CG TACOM
- PEO GCSS
- Director, TARDEC
- Director, IMMC
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- Ex. Direction Operations, TARDEC
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- · Caterpillar
- Allison Transmission
- United Defense*
- General Dynamics Land Sys*
- Premier Prof. Systems
- · Motor Products Intl.
- · Lear Siegler SVC
- · Barnes & Reinecke
- · LAU Defense Systems

ICTAP CHARTER (Continued)

- with CG TACOM, Appoint a Chairman VP Operations NDIA, in coordination
- 1st Chairman: Tom Rabaut, President and CEO, United Defense
- President and CEO, AM General Corp. Current Chairman, James Armour,
- Serves 2 Years
- ICTAP meets 2-3 times per year
- 4 meetings to-date

- Four meetings since chartered in March
- NDIA hosted inaugural meeting
- Industry hosted second meeting
- TACOM hosted third meeting
- Industry hosted fourth meeting
- Government/Industry/NDIA Members Topics for discussion are generated by

- First Meeting
- June 1997
- Hosted by NDIA
- General Exchange of Information
- Agenda
- TACOM: Goals/Objectives
- TARDEC: Status of Programs
- Industry: Company Organizations
- Charter Discussion

- · Second Meeting: November 1997
- Host: United Defense, Anniston, AL
- · Agenda:
- MG Beauchamp: State of TACOM
- MG Michitsch: Industry Study-AAN
- Mr. Weinberg, Caterpillar: Best Value
- Mr. Mehney, TACOM: Acquisition Reform
- Tour/Briefing: Anniston Army Depot
- Tour UDLP M113 Facility Partnering

- Third Meeting: May 1997
- Host: TACOM, MG Beauchamp
- Agenda
- MG(R) Greenberg: NDIA Overview
- Col. Doughtery: DLA/DSCC Overview
- Mr. Holly:
- » TACOM Focused

Sustainment Concept

- Third Meeting (Continued)
- Mr. Young: TACOM Industrial Base Management
- Mr. Siegel: PM Abrams, Obsolescence Integrated Circuits
- Mr. O'Bryon: OSD/DOT&E, Live Fire **Testing Status**

- Fourth Meeting: December 1998
- Host: Pulse Tech
- Agenda
- MG Beauchamp: TACOM Reorganization
- Al Puzzouli: Deputy PEO, GCSS
- · Creation of PEOs
- · Who, Where, What is PEO, GCSS
- · Managing Systems Life Cycle Costs
- · How PEO, GCSS Manages

- Agenda (Continued)
- LTC Cooper: PM Abrams
- · Challenges Now Through 2030
- · O&S Cost Initiatives
- Engine Modernization
- Contractor Logistic Support (CLS)
- Abrams Integrated Management (AIM)
- -Modernization Through Spares

- Agenda (Continued)
- Mr. Art Adlam: TACOM
- · Simulation Based Acquisition, Government **Perspective**
- SBA SMART
- SBA At TACOM
- Virtual Mock-Up
- Man-In-The-Loop Motion Base Simulation
- Virtual Factory

- · Agenda (Continued)
- Simulation Based Acquisition Industry **Perspective**
- · What is it?
- UDLP Initiatives
- Culture
- » IPPTs
- Process
- » Simulation Based Design
- » Simulation Emulation Stimulation
- » Integrated Product CAD/CAM

- Agenda (Continued)
- Environment
- » Common Operating Environment
- » Virtual Enterprise Environment
- » System Integration Environment

- Next Meeting: 19 April, Atlanta, GA
- Host: NDIA
- Agenda (tentative)
- Focus Sustainment Update: TACOM
- Reorganization of Foreign Military Sales
- TACOM Reorganization Deputy for Corporate Management

- Based Acquisition: "A New Way To Help Publishing an article on Simulation The Soldier"
- National Defense Magazine (Jan/Feb)
- Other Defense/R&D/Academic Journals
- ICTAP Minutes and Briefings on **TACOM Web Page**

REMARKS AS PREPARED FOR DELIVERY BY

The Honorable Paul J. Hoeper
Assistant Secretary of the Army (RD&A)
Keynote Address
1999 Tactical Wheeled Vehicles Conference
"How Healthy is Our Fleet?"
Monterey, California
February 1, 1999

Earlier this month, I went on a staff ride to Manassas with some of the senior military leaders in Army Acquisition and some of the senior folks from the Industry side. On a Staff Ride, we go out to a battlefield with an Army Historian, walk the terrain and learn about the factors that defined the outcome of the battle. Yesterday, as I flew out here, I fell to musing about the role of tactical wheeled vehicles at the First Battle of Bull Run.

At that time, our tactical wheeled vehicles were mule-drawn wagons. A six-mule wagon could haul a maximum of 4000 pounds on good roads in the best of conditions. In practice, the load seldom exceeded 2000 pounds and half of that was feed for them Army's mules and horses. A wagon could travel between 12 and 24 miles per day. You can see how the tactical wheeled vehicles of the day limited the reach and effectiveness of the armies.

At the beginning of the Civil War, around the time of the First Battle of Bull Run, the standard for the Union Army was 28 wagons per thousand men. By 1864, the growing recognition of the value these vehicles created caused the Union to increase this ratio to 36 wagons per thousand men. On the "march to the sea", Sherman's army operated

with 40 wagons per thousand soldiers. Much had changed since First Bull Run, but many of the principles of ground warfare remain essentially unchanged. Tactical wheeled vehicles were important then, and they are important now.

The Battle of First Bull Run occurred during a time of revolution in military affairs. Up to that time, it was the largest battle fought on the American continent, with about 18,000 soldiers engaged on each side. The commanders in that battle had never commanded forces on this scale, so the battle tactics stopped at the regimental level. First Bull Run marked our first use of rifled shot and rifled artillery – technological advances that dramatically changed tactics.

We are now in a similar period of revolution in military affairs. The application of information technology to warfare has enormous implications to both strategy and equipment. Our business practices are also changing dramatically. It is not simply, as is sometimes said, that we must achieve a revolution in business affairs to pay for the revolution in military affairs. Yes, we need to find efficiencies, and it is terribly important to do so. We will not be able to buy all that we need if we cannot find those efficiencies. But the operational needs of the Army demand, by

themselves, that we change our ways of doing business. It will not be possible to field the weapon systems essential to the digitized force and the Army After Next without changing the way we develop, acquire, and support them.

We will have the fundamental platforms we are digitizing today for, perhaps, twenty-five to thirty years. During that time, we will add platforms to the system of systems that will be the digitized force of the future, and will be part of the Army After Next. We want the systems we will add in the future to be compatible with the systems we plan to field by 2000. And we want the ability to upgrade the systems we are building today to the performance that we know technology advances will make possible for future systems.

The fact that we are going to have many of our platforms in place for so many years means that we will need to modernize them significantly over time. We may give the wrong impression when we say that seventy percent of the platforms for the Army After Next are fielded now or shortly will be. That is true enough, in terms of the outside appearance. Many of our Tactical Wheeled Vehicles (HMMWV, FMTV, PLS, HETS) in the field today will be part of the Army After Next. They will probably look

much the same as they do today. We do not plan to give them a cosmetic face-lift, but they will get numerous transplants. Our 33-Ton Truck/Trailer, the Palletized Load System (PLS), will still look like today's PLS, but it will have more efficient commercial engines with a digitized cab that incorporates both a Movement Tracking System and a "Sealed Hood" concept. This digitized cab will give our soldiers enhanced mobility, capacity, reliability, and situational awareness.

Digitization, as with the digitized cab in PLS, is the application of information technologies to Army weapon systems so our soldiers and leaders can acquire, exchange, and employ timely information throughout the battlespace. Whether built in a platform or added capability, digitization depends on information and communication technologies. It is the Army's highest research, development and acquisition priority. We have all seen the rapid advances of the past fifteen years, since IBM brought out its first personal computer. The computer chips that these technologies depend on are doubling in power every eighteen months. Our time to field for a fairly large system is about twelve years. How can we keep the systems we will field in the next few years compatible with the systems we will be fielding ten or

twenty years from now? Both will be part of the digitized Army of 2020.

We will have to change the way we do business. We used to design point solutions for specific platforms using militaryunique components and architectures. To succeed in the future. we must use open architectures that allow horizontal technology integration across systems of systems. It is not simply that commercial information technologies are cheaper, although they can be. Nor is it always true that commercial solutions are more capable than the point solutions we have incorporated in the past. It will often be possible to design a military-unique solution that is more capable than anything presently available from the commercial market. The problem is that we take an average of twelve years to field a major system, while the power of the computer chips on which the commercial digital technology depends doubles every eighteen months. The most important reason for us to gain access to commercial technology is not to save money; it is to get on the commercial innovation cycle using an open architecture. If we do this, we will gain the ability to modernize our weaponry through the timely insertion of communications and information technology - brain transplants.

The use of open architectures that accept commercial upgrades is not limited to digital technologies. A major goal of the FMTV program was to simplify the overall support system. Specifically, commonality of components was a design criterion. As a result, there is more than eighty- percent commonality between the Light Medium Tactical Vehicle (LMTV) and the Medium Tactical Vehicle (MTV). This translates to a reduction in inventory and material handling requirements, as well as simplified operator and maintenance training. The approach also allows insertion of improved technologies, as we are doing with the current buy.

As we modernize to add capability, we must also bring down operation and support (O&S) costs. One important initiative in this area is Modernization Through Spares. Tires and batteries are major cost drivers for our Tactical Wheeled Vehicles. Let's take our Heavy Expanded Mobility Tactical Truck (HEMTT) fleet – 12,600 strong – each with eight tires. That's more than 100,000 tires. By capitalizing on the modernization through spares initiative, we replaced the old tires with ones that have a higher load rating, improved tread design, and are common with PLS and the Heavy Equipment Transporter System (HETS). The new tire can even be patched.

I want to apply this concept to the rest of the fleet. As we explore all areas to cut O&S costs and, at the same time, reduce the logistics burden, it seems to me that a significant reduction in the different types of tires we use and carry around is important. Some have mentioned a fifty percent reduction. I don't know what the answer is, but we need to take a serious look at this.

I also mentioned that batteries are a major cost driver in our Tactical Wheeled Vehicles. What is being done to address this problem? The PLS program is replacing its current 145 amp alternator with a 200 amp that provides more output during high load events. Also, a master disconnect switch has been added to prevent the constant draw of current placed on the battery by the Electronic Control Units. Together, these improvements are extending battery life in PLS.

How do we come to grips with the fact that we must either invest in the future or else consume ourselves with O&S costs? The Army will continue to recapitalize our vehicles where it makes sense. We are completing a very successful 2-1/2 ton remanufacturing program this year that helped modernize our medium fleet and control increasing O&S costs while the Family

of Medium Tactical Vehicles (FMTV) program was ramping up. We will begin the same type of program for the HEMTT fleet starting in Fiscal Year 2000 in order to maintain readiness and control O&S costs until the Future Heavy Tactical Truck program is in place around the 2010 time frame. The HEMTT remanufacturing program will also provide an opportunity to adjust the mix of HEMTT variants by converting cargo trucks into HEMTTs with a Load Handling System similar to PLS.

O&S costs can make up 70 to 80 percent of a system's total life cycle cost. Reducing total ownership costs for Army systems is a high priority. The acquisition and logistics communities have instituted reform initiatives targeting lower system ownership costs. All of us charged with giving soldiers what they need must work together on this: those involved in combat development, requirements determination, training development, financial management, materiel development, and logistics. Integrated Process Teams or IPTs, with representatives from these functional disciplines, are a program tool for identifying total ownership cost reduction opportunities. Our plan is to find ways to save both acquisition and O&S dollars during system design as well as through deployed system modifications and upgrades. I have already given you an example of deployed system

modifications, so let me try to give you an example in system design.

Considering the earliest stages of development, the Army developed the 21st Century Truck concept with a primary goal to reduce emissions and improve fuel economy in future light, medium, and heavy commercial and military trucks. Last September, I approved the implementation plan for 21st Century Truck. It is consistent with Army After Next goals to reduce the fuel requirements of a deployed force. Technology areas will focus on propulsion, vehicle intelligence, advanced materials, aerodynamics, and alternative fuels. The key to this effort will be to develop a strong, enduring partnership among government, commercial industry, and academia. I am pleased by the support we have received from major commercial truck, powertrain, and component manufacturers.

In the area of modifications and upgrades, we discovered that our High Mobility Multipurpose Wheeled Vehicles (HMMWVs) go through a lot of glow plugs. These are the devices that raise the temperature of the fuel and air mixture in diesel engines when the engine is not hot enough to create combustion. HMMVWs have a protective control box in the ignition that is supposed to

turn on the glow plugs under appropriate conditions. The problem is that soldiers will often turn the ignition on and off repeatedly when they try to start a HMMVW on a cold day. This confused the electronics on our HMMVWs and allowed the glow plugs to reach two thousand degrees Fahrenheit, when they burned out. It is not that the protective control box was badly designed. It was constrained by the technology of the time – our HMMVWs were designed fifteen years ago. Glow plugs are one of the top ten cost drivers in HMMVWs.

To solve this problem, our Tank Automotive and Armaments Command (TACOM) formed a team comprising TACOM's Research, Development and Engineering Center (TARDEC), the Acquisition Center, the HMMWV program manager and the Integrated Material Management Center to analyze the problem. To get the solution into the field, TACOM teamed with Lau Technologies. The result is a new, solid state device based on state-of-the-art commercial technologies. The form factor is exactly the same so replacement is easy.

What did we get? TACOM and Lau have solved our glow plug burnout problem, which used to be one of the top ten cost drivers on HMMVWs. The new protective control box also allows engines to start if several glow plugs are burned out through

normal wear. The bottom line is that we have reduced O&S costs, improved reliability, and given our soldiers an extra margin of safety all at the same time.

I am glad to have this chance to talk to you about how we will provide for the needs of the digitized army and the Army After Next. I have talked about new systems, open architecture, modernization through spares, and recapitalization. All are tactics aimed at our overall strategy of completing digitization and preparing for the Army After Next while dramatically bringing down O&S costs and reducing our logistics footprint. During the next few days, we will have a chance add new ideas. The really good ideas will come from working together. We have big problems to solve. Let's work together and get on with it.

CONGRESSIONAL PERSPECTIVE

1999 TACTICAL WHEELED VEHICLES CONFERENCE February 1, 1999

Michael Chase William Daoulas J. David Willson

FY 1999 CONGRESSIONAL ACTION ON DEFENSE

Regular Appropriation Bill

Supplemental Bill

- \$9 Billion

- "Emergency"

Increased FY 1999 Base for FY 2000

- Less Pressure for FY 1999

Reprogramming/Rescissions

Will Not Happen Again This Year

106TH CONGRESS

Leadership Changes

New House Speaker

New SASC Chairman/Subcommittee Chairman

- New HAC Chairman/Subcommittee Chairman

Staff Changes

Other Changes

- Smaller Republican Majority in the House

- Fewer Veterans

New House and Senate Rules

LEGISLATIVE AGENDA 106th CONGRESS

- Impact of Impeachment Proceedings
- Issues Intertwined:
- Social Security
- Education
- Tax Cuts
- Defense Increase
- Surplus
- New Budget Agreement/Summit?

DEFENSE BUDGET FOR FY 2000

- President's Budget Increase Will Not Be Cut By Congress
- Firewalls Are Down in FY 2000
- Congressional Defense Increases Dependent on Resolution of Other Issues
- Trucks Continue to be Low Priority

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NOTE: Gary Reese has been replaced by Kraig Siracuse to handle relevant Army programs.

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- New Chairman
- ** The 106th Congress renamed the House National Security Subcommittee to the Defense Subcommittee.

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Donald L. Sherwood (PA)

NOTE: The 106th Congress renamed the House Committee on National Security to the House Armed Services Committee.

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Cynthia McKinney (GA)

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TRANSPORTATION CORPS



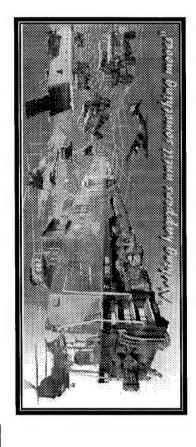


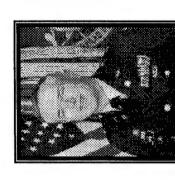
Chief of Transportation BG Gilbert S. Harper

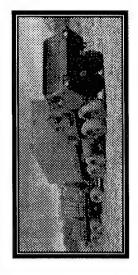


FOR CE

TRANSPORTATION CORPS













Strategie

Lanslookiation







If you look at war as a sport....

country behind him. But in 1945, Berlin stood in equipment, the best organization and the whole tuins because Hitler could not win on the road." "In 1939, Hitler had the best Army, the best

Mary Levy, former Head Coach, Buffalo Bills.

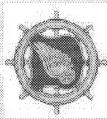


.... A power projection Army must be able to win on the road.

A task with a vision is victory." A vision without a task is a dream. "A task without vision is drudgery.



AMERICA'S ARMY TRANSPORTATION CORPS STRATEGIC VISION



- The Transportation Corps will lead America's Army in the transition to an multiplier by anticipating and fulfilling wartime theater support demands integrated, transportation-based global distribution system capable of efficient operations in peace and war. It will serve as a combat force with unprecedented speed and flexibility.
- The Transportation Corps will lead in the development of force deployment, emphasize increased velocity through modernization, synchronization and transportation-based distribution doctrine and integrated training. It will adaptability in support of our force projection Army
- The Transportation Corps will leverage emerging technologies and thrive on delivery to deployed forces in a dynamically fluid, nonlinear battlefield in the digitized battlefield. It will provide movement control and direct Force XXI and into the Army After Next.
- The Transportation Corps' soldiers and civilians will lead and perform multifunctional and joint logistics roles. Professional development will produce ethically, technically and tactically sound leaders.
- deployment and power projection training and education. The Transportation Corps' soldiers and civilians will provide the professional transportation and distribution logistics expertise in Joint Commands and Defense Agencies. The Transportation Corps will lead the Department of Defense in

GILBERT S. HARPER Brigadier General, U.S. Army Chief of Transportation

HELL SK ENTER

The Army Must Be Able To Simultaneously Project, Sustain and Fight...

◆ * Light Brigade by GreMm* ◆ 1 Light Division by C+12 ◆1 bleavy Brigade Afficantify, D

P Z Heavy Divisions front CONUS IS

🕩 6 Division Contingency Corps with



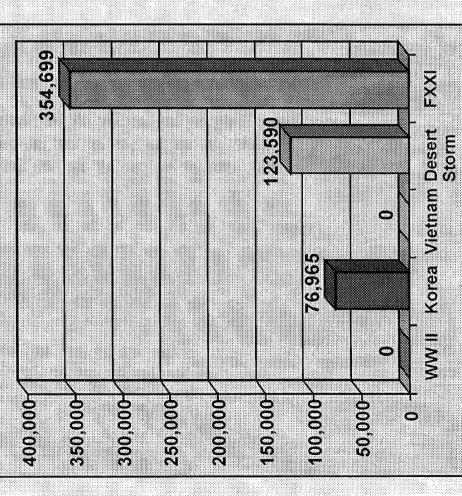
Army Deployment Comparisons Tons of Supplies & Equipment

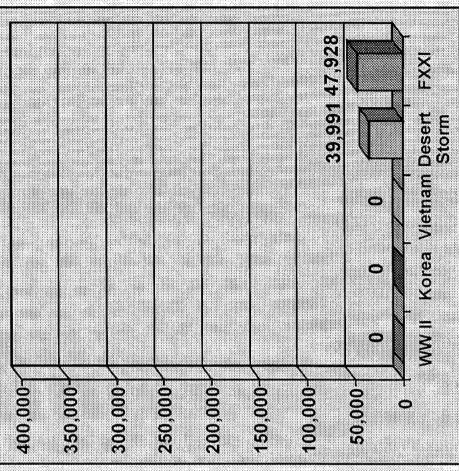
ons of Supplies & Equipme First 30 Days

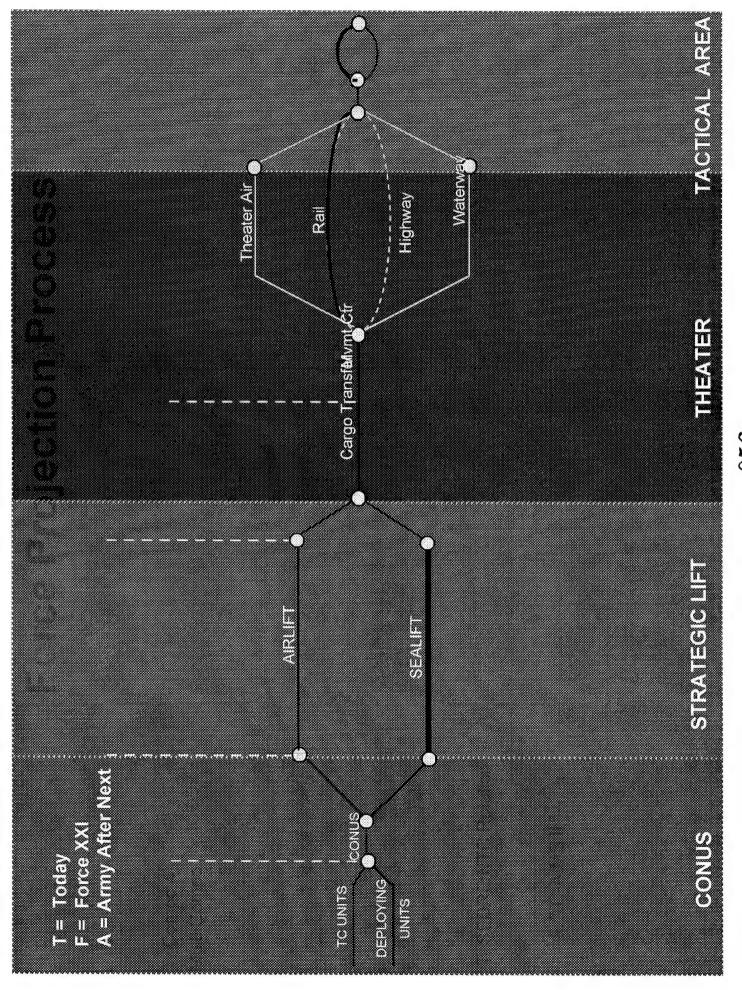


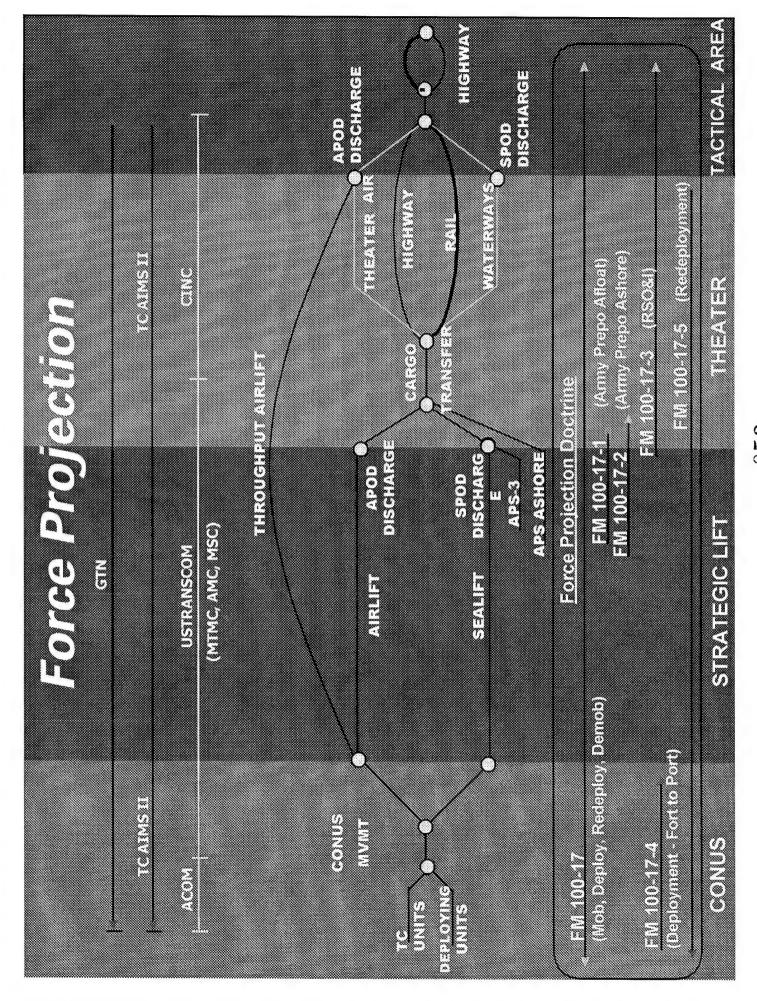
AIRLIFT



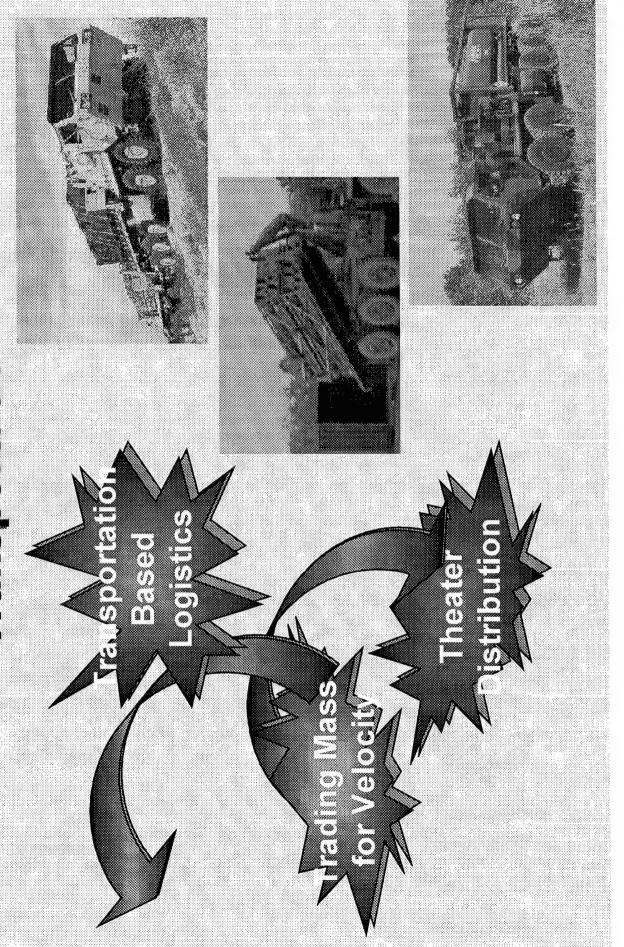


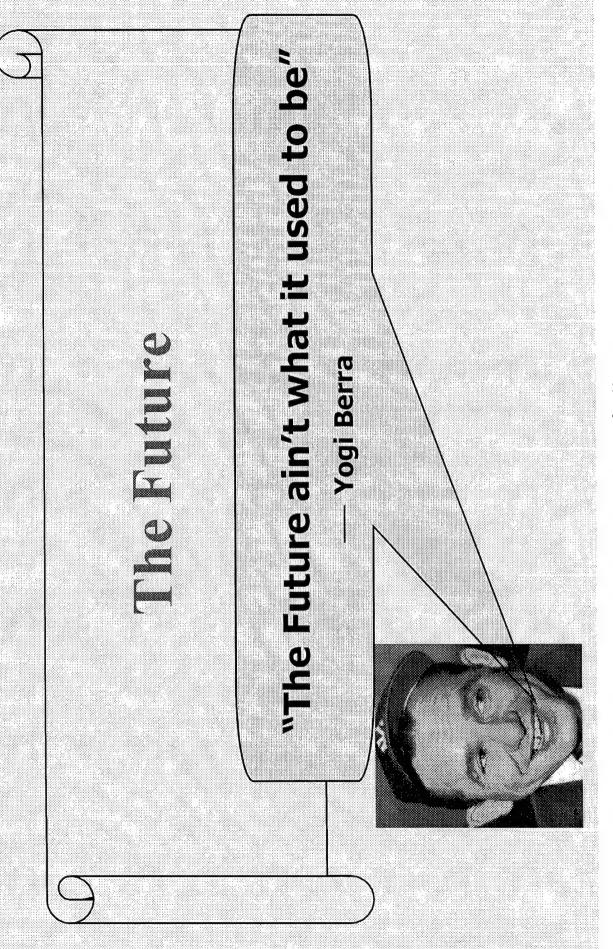






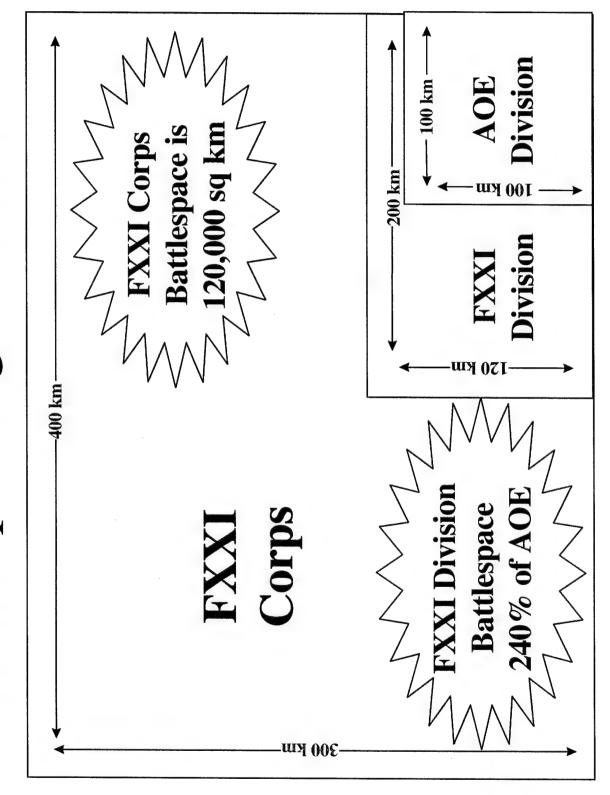
Operational and Tactical Transportation



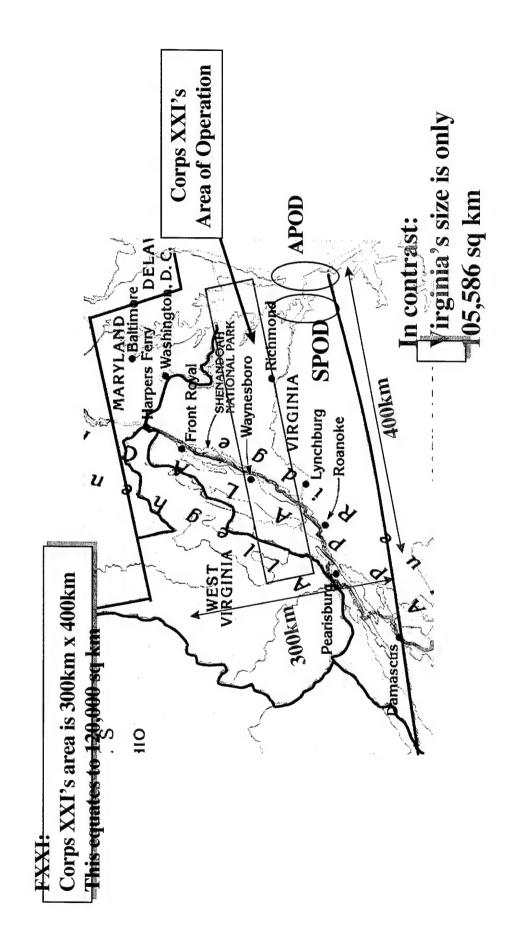


BATTLESPACE Force XXI

The Expanding Battlefield

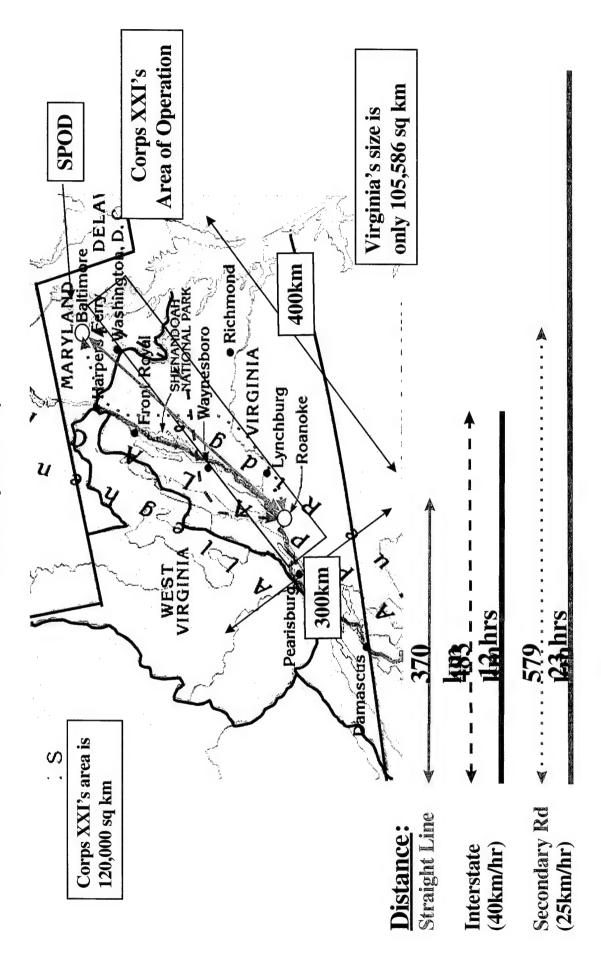


Challenging The Laws of Physics



Road Distance

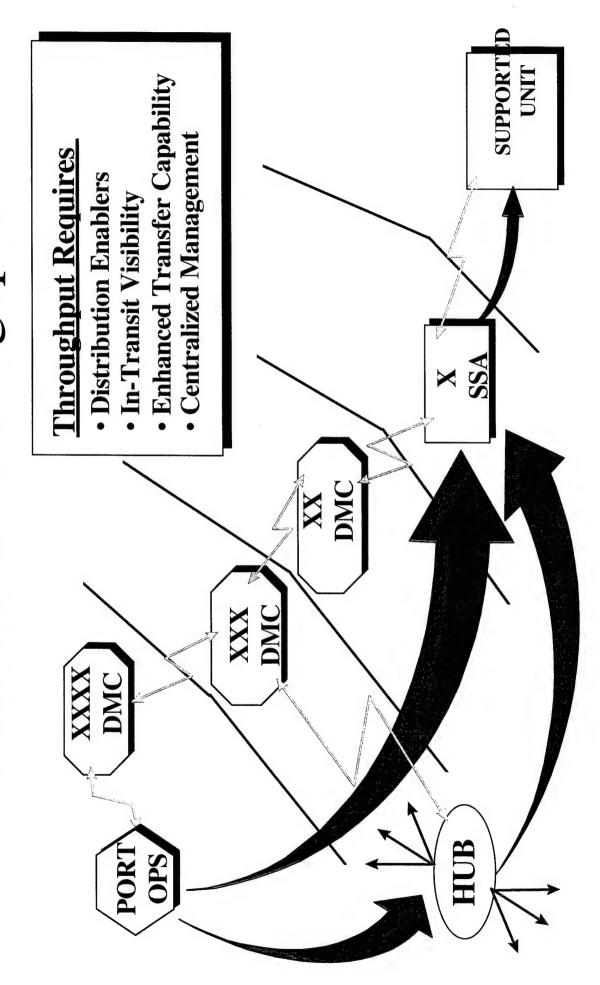
The Rest of the Story



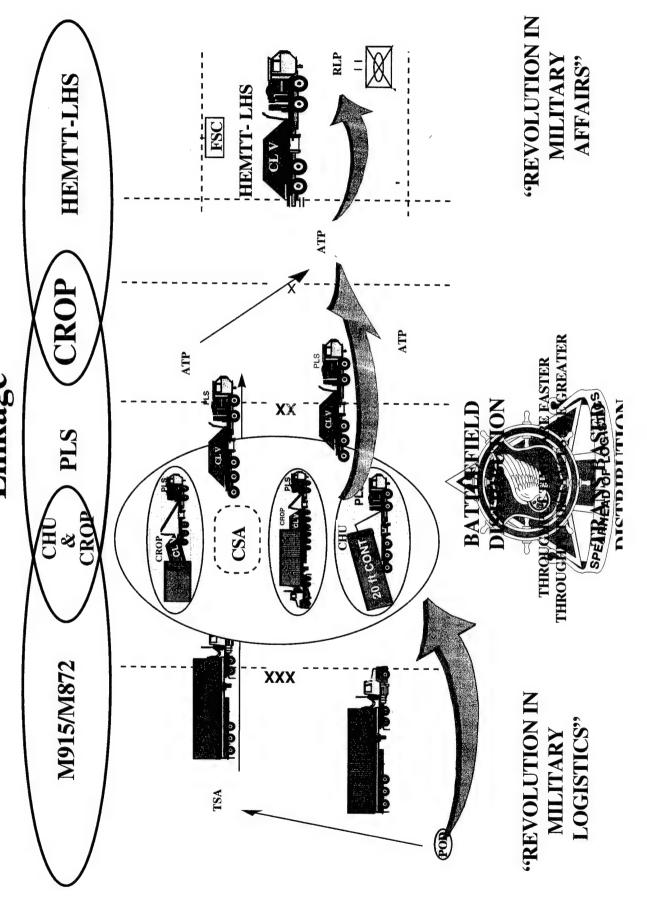
TRANSPORTATION BASED LOGISTICS

Force XXI

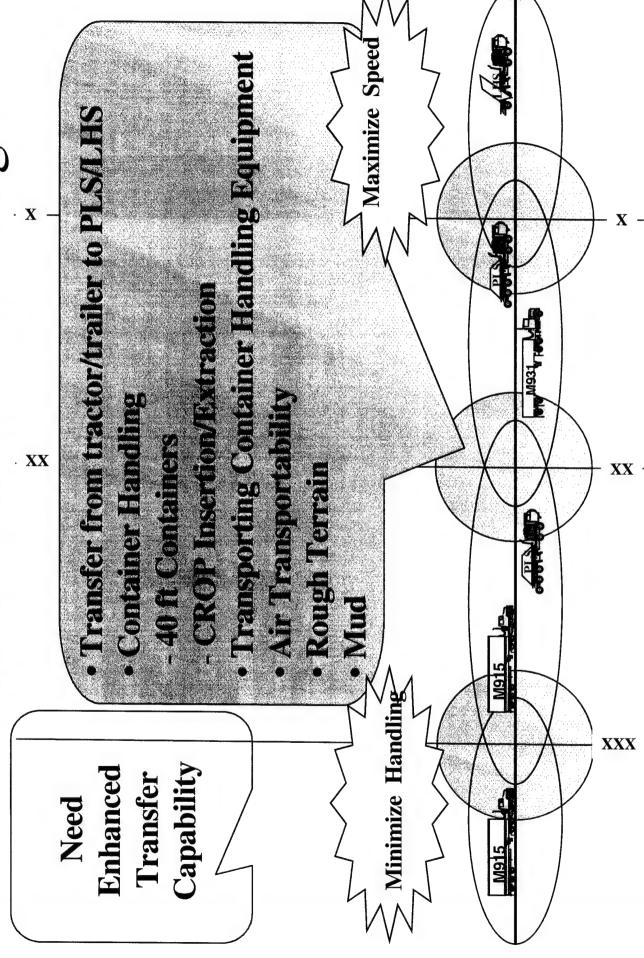
Focused On Throughput



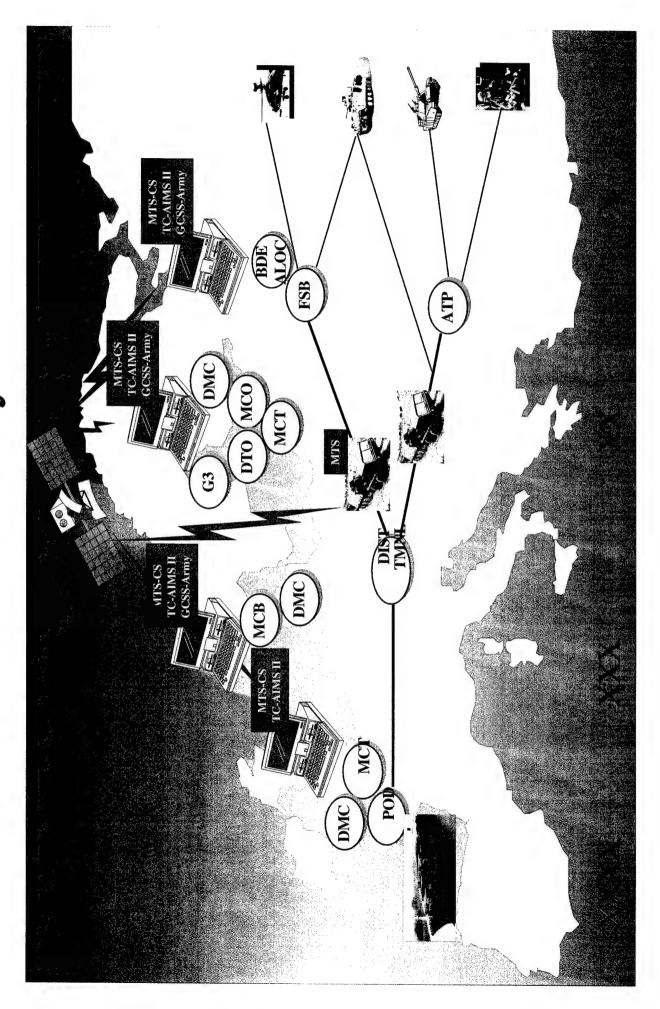
Battlefield Distribution Enablers Linkage

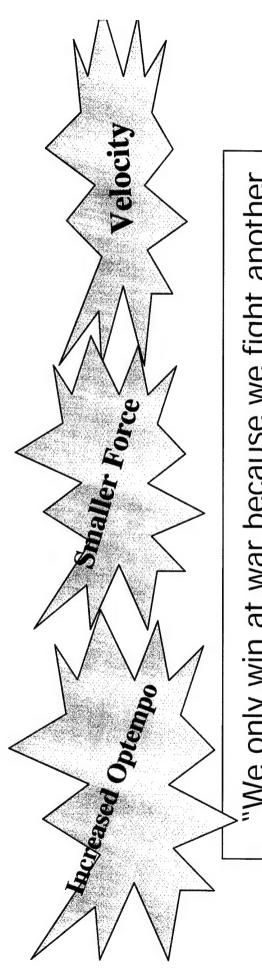


Intermodal Transfer Challenges



In-Transit Visibility

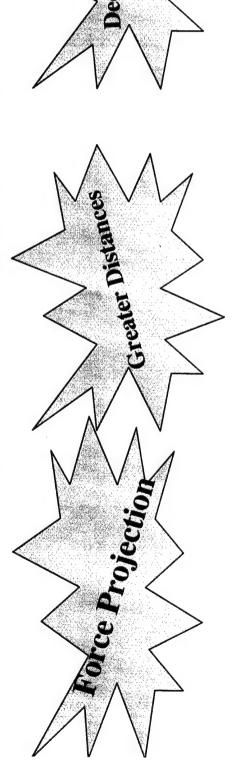


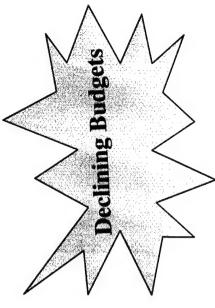


government. If we fought private industry we "We only win at war because we fight another would not last until noontime."

R.I. Fitzhenry

We need industries help





What Can Industry Do to Make our TWV's Better?

r Increased Range

- Division battle space increased by 240%
- Need Larger fuel capacity
- More fuel efficient engines

Increased reliability

- Need reduced mechanical failures
- Improved sub-component reliability
- · reduce the number of critical parts
- Combine/simplify subsystems to reduce failure modes

Lightweight & Rugged

- Larger battle-space
- More dependence on air transport
- Must withstand effects of terrain

Better maintainability

- 11% fewer Division personnel
- Limited number of vehicles no extras
- Improve diagnostics/prognostics
- Improve trouble-shooting methods
- Quick replacement parts and components
- Lube for life components

★ Better fuel economy

- Army Goal-50% reduction in fuel consumption
- More fuel efficient power plants

★ Reduced O&S Cost

- Less Defense \$
- Better to buy beans and bullets than wiper blades
- Top O&S drivers for trucks batteries, tires, light bulbs, brake pads, and glow plugs.

- Short \$ can't buy new as often.
- Modernization through spares
- Increased corrosion protection

№ Modularity

- Same as maintainability
- Must replace forward, fix to the rear

Crew Protection

- Protect crew from injuries
- Improved vehicle survivability
- Lighter weight protection to increase payload

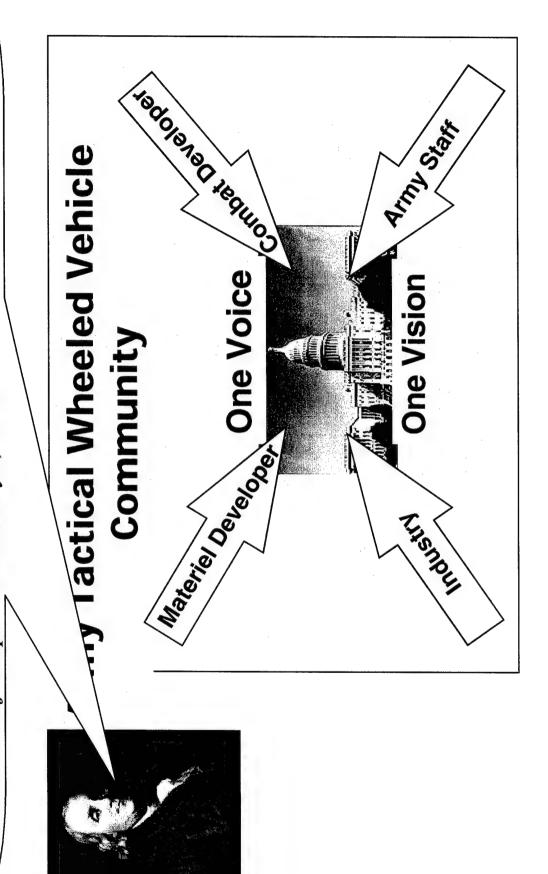


Fransportation Summit 16-17 DEC 1998 TACOM

- Improve the communications between the Combat Developer and Materiel Developer.
- Achieve a stronger alliance with industry.
- technology in the "Spiral Modernization" of our legacy fleets. Develop a team strategy to efficiently adopt commercial
- Speak with one voice

We must indeed all hang together, or, most assuredly, we shall all hang separately."

revolutionaries should be unanimous in their action; made at the signing of the --Benjamin Franklin's reply in response to a John Hancock remark that the Declaration of independence on July 4, 1776.







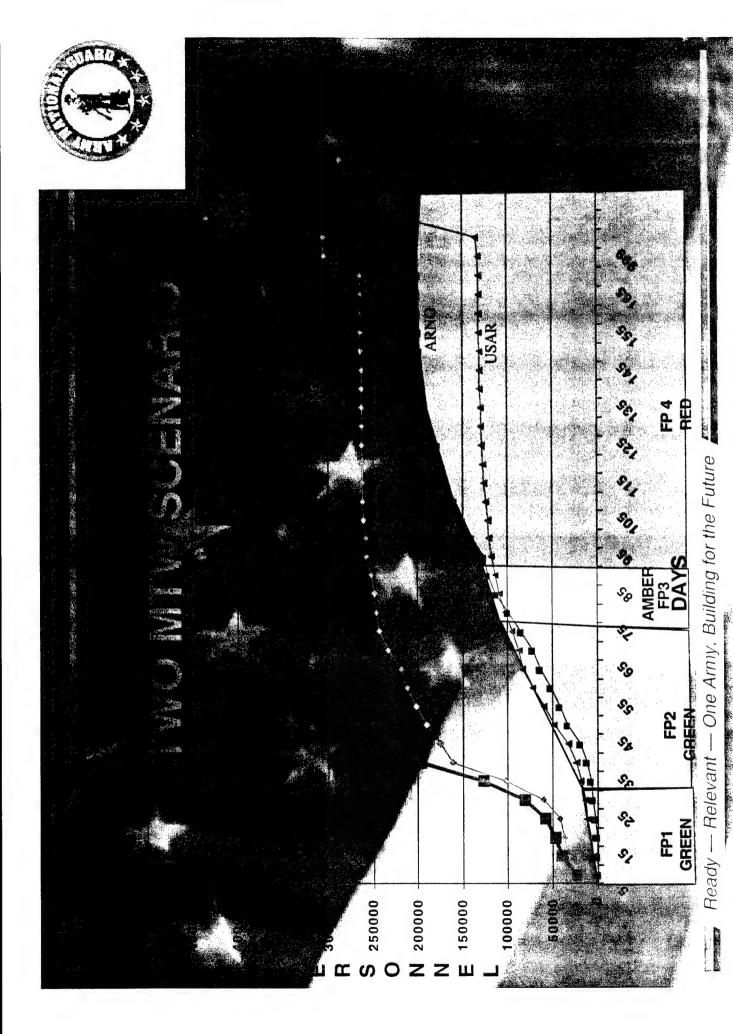


- Proble Mar
- Solution Exect Program for Selec



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Pascaded Vehicle Paby the AC ernization is Stretched Over the Nex



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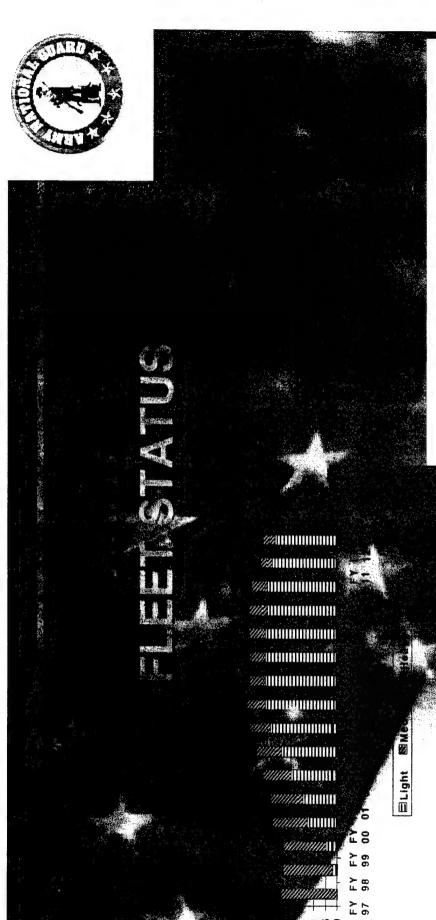
FP1

28,344

16,092 50,389

21,624

24,894

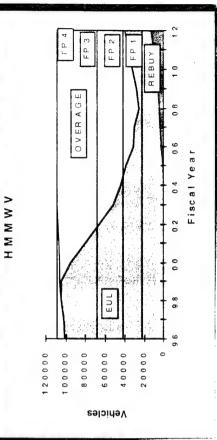


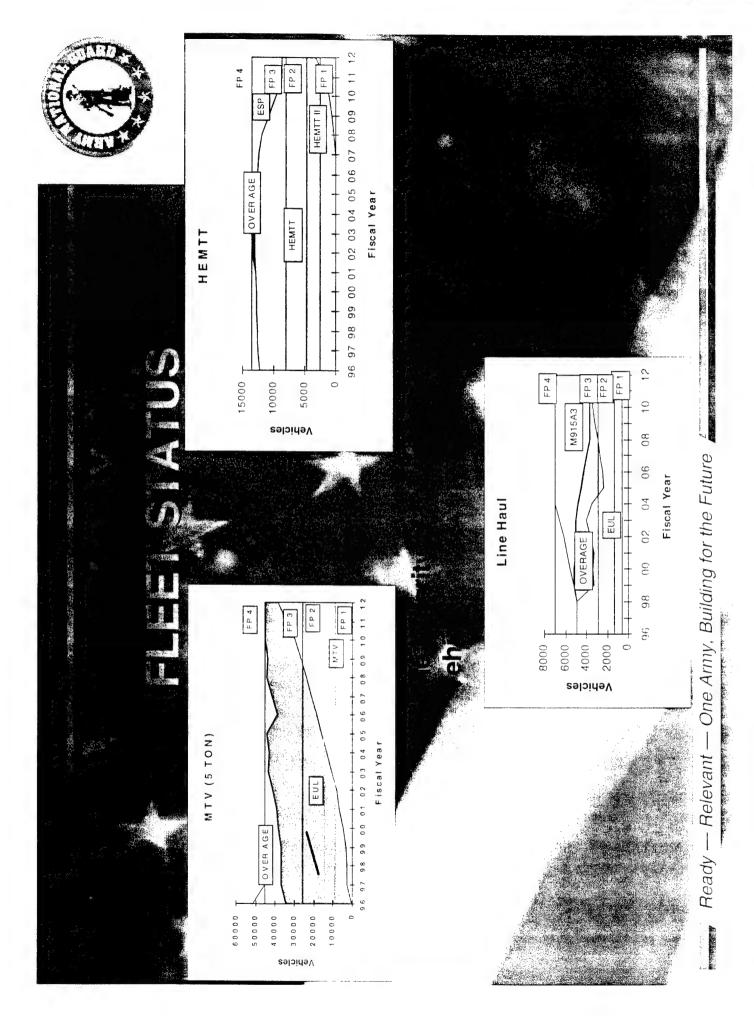
и с с ш

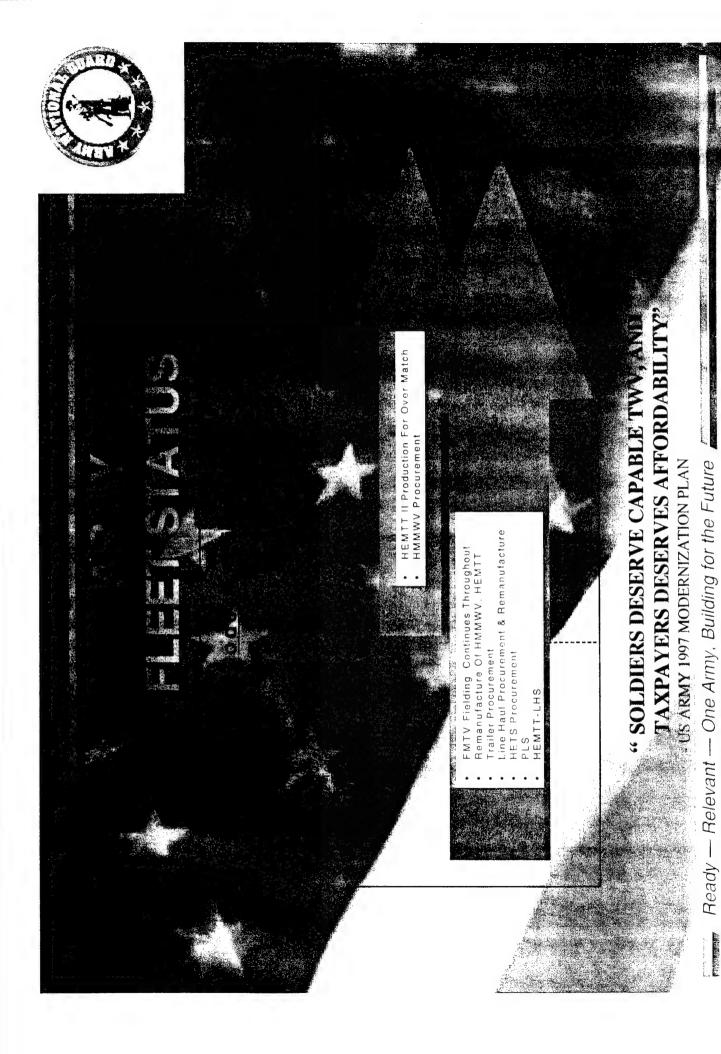
"SOLDIERS DESERVE CAPABLE"
TAXPAYERS DESERVES AFFORM
USARM 1807 MODERNIZATION PLAN

Inar Dives the RC Want?

Safe and Reliable, Supportable Fleets









REQUIREMENTS NOT OVER AGE **ASSETS MEET**

FP 1& 2 OK OVERAGE

AMBER

AMBER

FP 1&2 OK OVERAGE

RC RATING

Required Ope GREEN - A

Required Operational - Limited

- Required Operational Capability do

Capability is Insufficient to Defeat the Threat or Pro

Required Support Capability is Based on Vehicles not Having Exceeded thei

Relevant — One Army, Building for the Future Ready — THE STATE OF



THE INDICATION

AMBER

AMBER

OVERAGE

FP 1&2 OK OVERAGE

TOTAL

GOOD FILL ALL FP

RC 2 1/2Ton Fleet

FP3 & 4

FP 1-4 GREEN GREEN - Ad the Required

RC 5 Ton Fleet Fl

- Limited C Required Operational

Wanii

- Required Operational Capability Does not a control of the Capability is Insufficient to Defeat the Threat or Provide the

ed Support.

Ready — Relevant — One Army, Building for the Future

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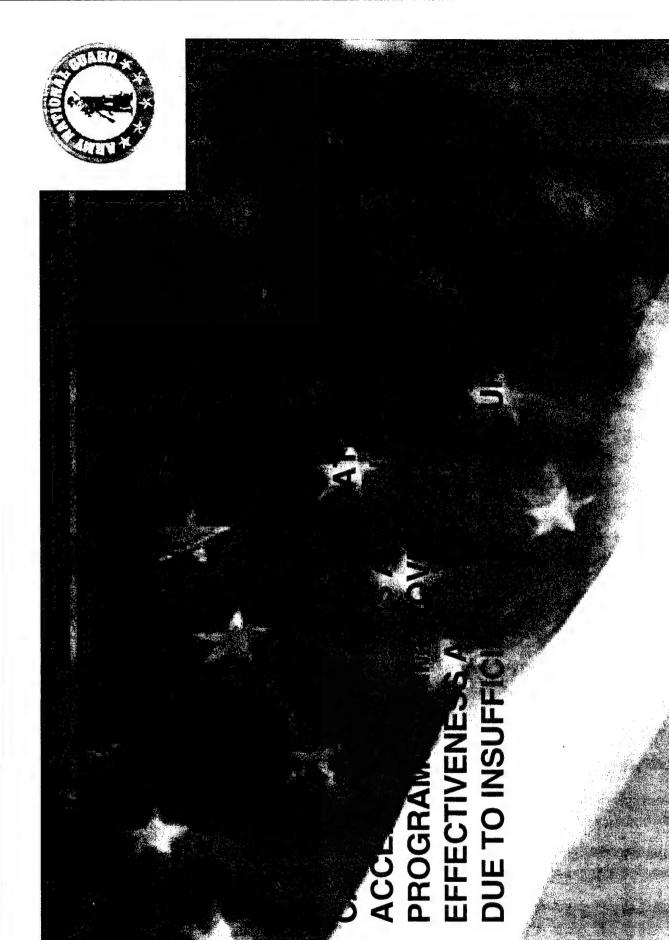
HEAVY FLORE ROLLOW, D. C.

NEAR-TERM FY 99-05

はに国際については、

AC & RC Heavy Fleets

Capability is Based on Vehicles not Having Exceeded their US



Ready — Relevant — One Arnry, Building for the Future



Hyara

Trailer Deck

Brake Systems

Drive Train



- Previou
- No Depot Level Tas
- At Some Point, Tack Rehabilitation to Resi



on b. Labor Ho.

- Labor Ho-BLTM-TRM MG-
- AC Deferred Mainte Cascading
- FC Fleet Age is Majo Tibura Fibura FETROEUR Program Mingration Truck Sustainment Programs are
 - Truck Sustainment Programs are Capable Fleet





- → Equipment O No Formal Prog
- RC Imperative is to Fil
- Second Priority is to Modern
- Offen a Source of Equipment



3.

AC Moderniza on Trucks to RC Procurement Programments



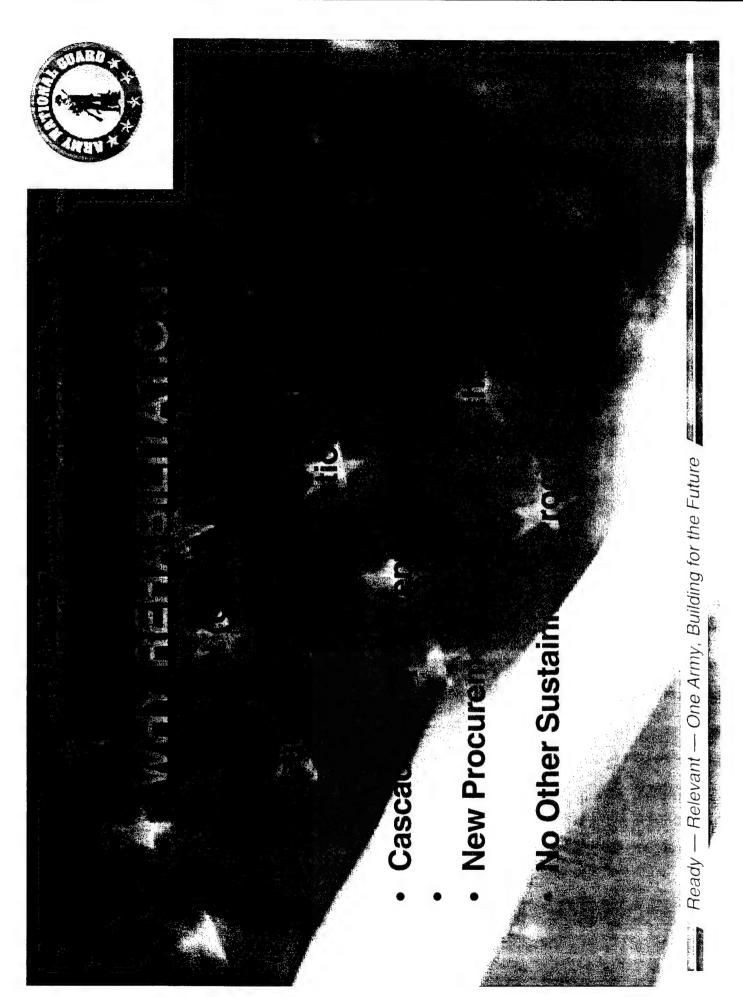
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More Accure

- → JCS Due Ou C System/Methor
- FMC Status vs TM 102

 → Not Preferred Statu
- Abours, Bumpers, etc., Abours, Motasure of Reliability & Substitution of Science of Shortages



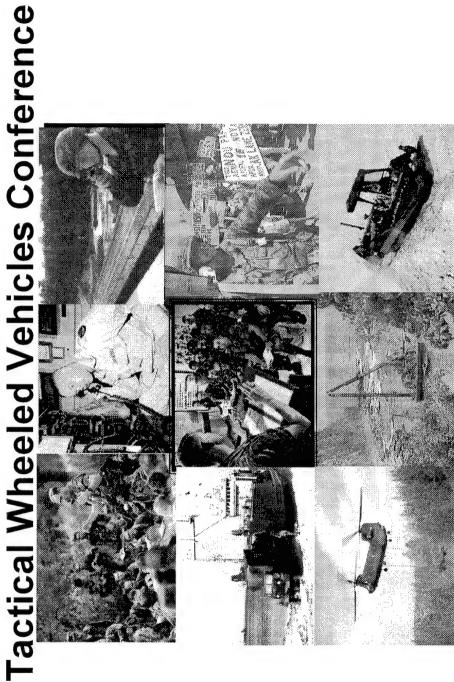






State of the Army Reserve

Briefing for the 1999



Beputy Chief, Army Reserve **BG James R. Helmly**





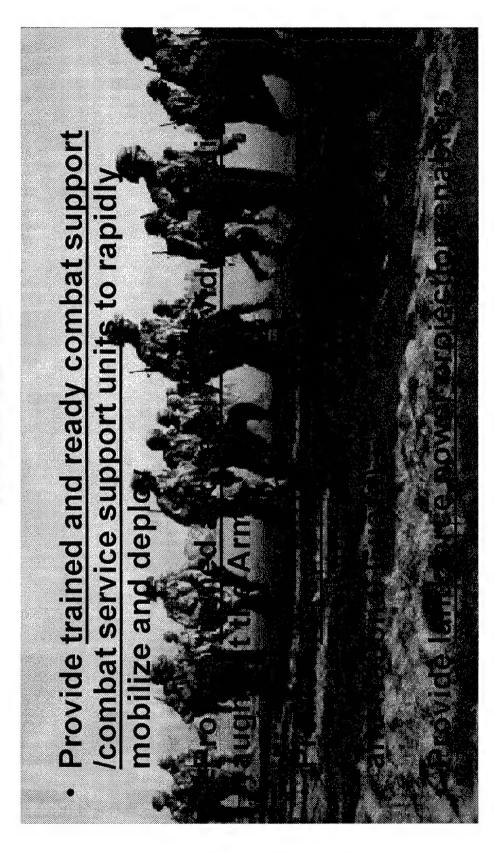
AGENDA

- Today's USAR Environment
- Tactical Wheeled Vehicles Status
- **Initiatives**
- Summary





Missions



092



AMERICA'S ARMY RESERVE

Engaged Worldwide in Peace - Prepared for War



Trained and ready

- Combat service support/combat support
- . 424 Force Support Package units
- 73% of the RC forces deployed for Bosnia



JOINT ENDEAVOR/JOINT GUARD

Power projection

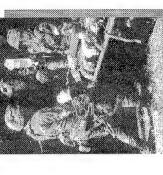
- Transportation Terminal Units
- Garrison support
- Installation medical support

Training readiness enablers

- Initial Entry Training
- Lane training/battle simulations
- Skill training/professional education/ROTC

Trained soldiers

- Joint Readiness Units
- Individual Mobilization Augmentee
- IRR mobilization pool



FULL SPECTRUM CAPABILITIES

- Fully Engaged
- Ready, Relevant, Reliable
- Unique Capabilities
- Supporting the Nation & America's Army

Forward Presence
Peace Enforcement
Humanitarian Support
Domestic Support/Community
Assistance
Partnership for Peace
Overseas Duty Training

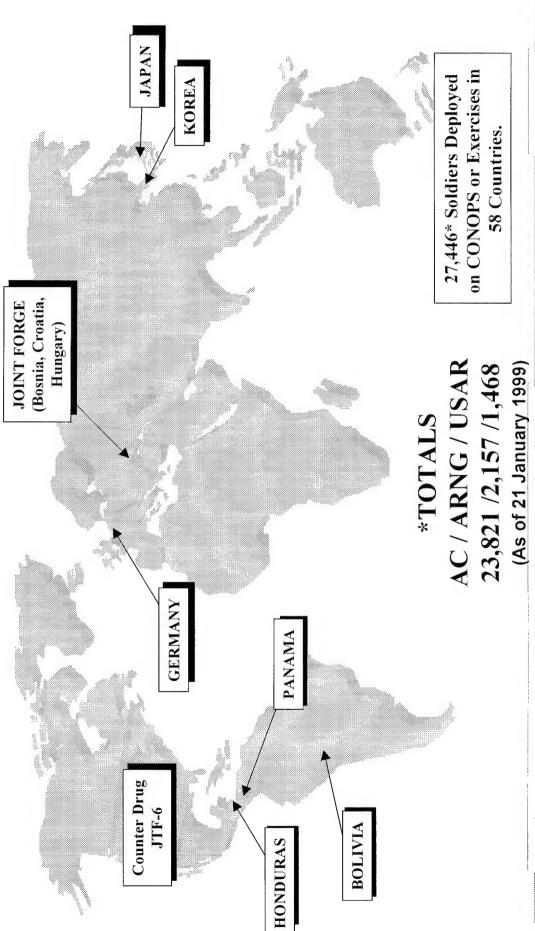
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Army Reserve OPTEMPO

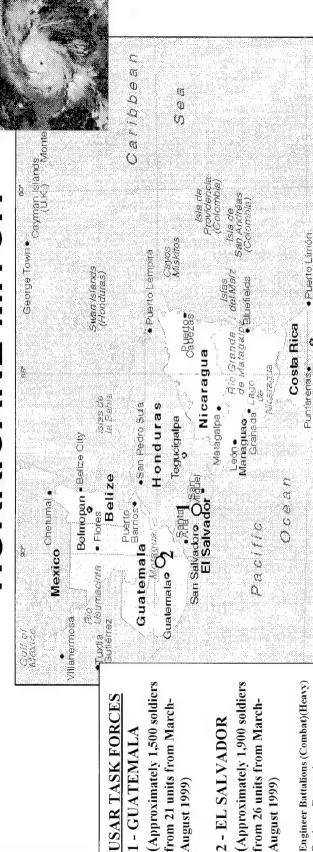


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HURRICANE MITCH DISASTER RELIEF





August 1999)

(El Salvador and Guatemala) in support of USCINCSO's deployment window of 15 Mar 99 through 15 Aug 99. MISSION: Plan, organize, and deploy two Task Forces disaster relief effort in Central America with a

Colombia

992 MAGELLAN Geographix 3WSanta Barbara, CA (800) 929-4MAP

200 nautoal miles

Military Police Companies (Guard)

AG Companies (Postal) Vetinary Detachments

Hospitals (Cbt)(Spt)

oPanamá

Colón

Bocas de Toro

Central America

Combat Support Equipment

Dump Truck Well Drilling

Engineer Companies

August 1999)

Golffloe Panama Parama Davide Panama Canal

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W DAAR-LO

Direct Support Maintenance Sections

Water Purification Teams Field Services Companies

Public Affairs Teams

Signal Corps Teams Civil Affairs Teams

Direct Support Supply Companies

Chaplain Teams





America's Army in Transition

FY 99 By Component (MTOE ONLY)

National Guard (NG)

45%

Army Reserve (USAR)

17%

Component (AC) Active 38% *Cbt Spt

USAR 26%

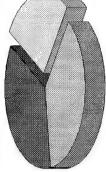
NG 36%

%9S DN

*Cbt

USAR 45%

*Cbt Svc Spt



USAR 1%

AC 38%

NG 27%

AC 28%

AC 43%

*MTOE Units Totals Only

SOURCE: SAMAS, MF9812, FY99LOCKED FORCE AS OF 27 JAN 99

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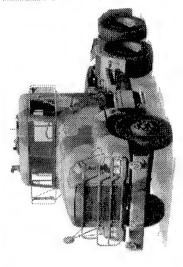


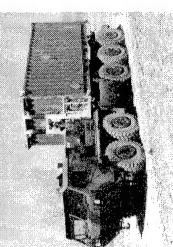
America's Army's

Battlefield USAR Core Competencies (percent of Total Army assets)

- Petroleum Supply Battalions - 92%







Common USAR Equipment (Required Unit Equipment)

HETs - 485

- Water Supply Battalions - 100%

- Civil Affairs units - 97%

- Motor Battalions - 78%

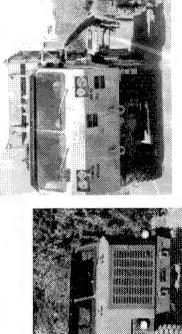
Transportation Groups - 80%

- Medical Brigades - 85%

Chemical Battalions - 75% Petroleum Groups - 50%

EPW Brigades - 100% Railway Units - 100%

- HMMWVs 10,143
- 5 Ton Trucks 8,084
- 2 1/2 Ton Trucks 4,676
- Line Haul Tractors 2094
- Palletized Load Systems 711 HEMTT Wreckers - 339
- 20 Ton Dump Trucks 456
- - Tactical Firetrucks 79
- HEMTT Common Bridge Trans 284



Mission Success Requires A Modernized, Well-Maintained, Tactica! Wheeled Vehicle Fleet

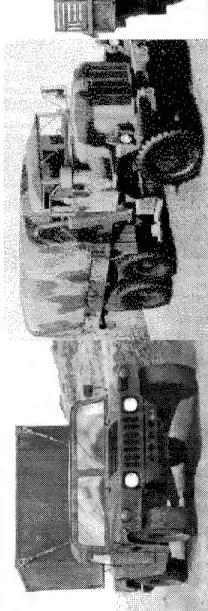


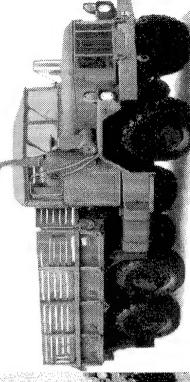
* DAAR-LO

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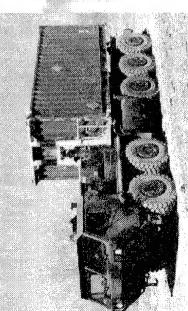
RESERVE

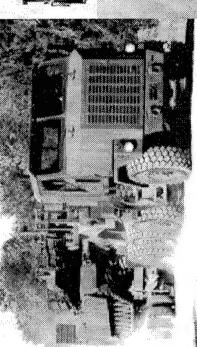


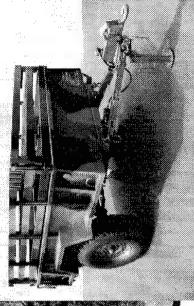




Tactical Wheeled Vehicles Status Army Reserve





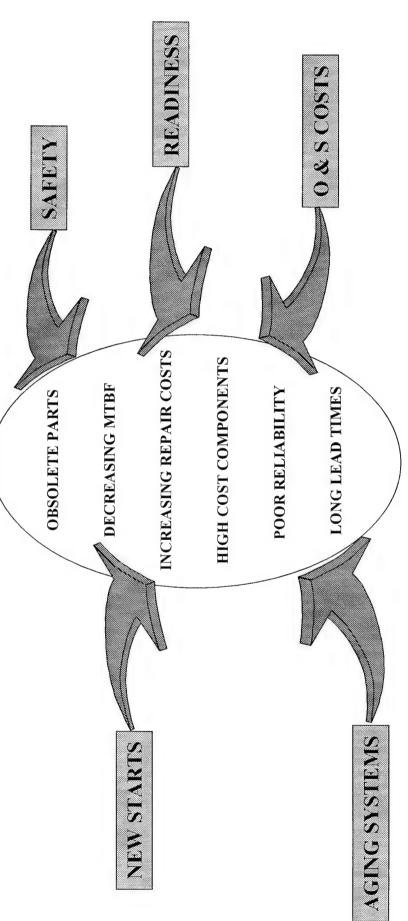


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USAR TRUCK FLEET SCENARIO



Ready — Relevant — One Army, Building for the Future

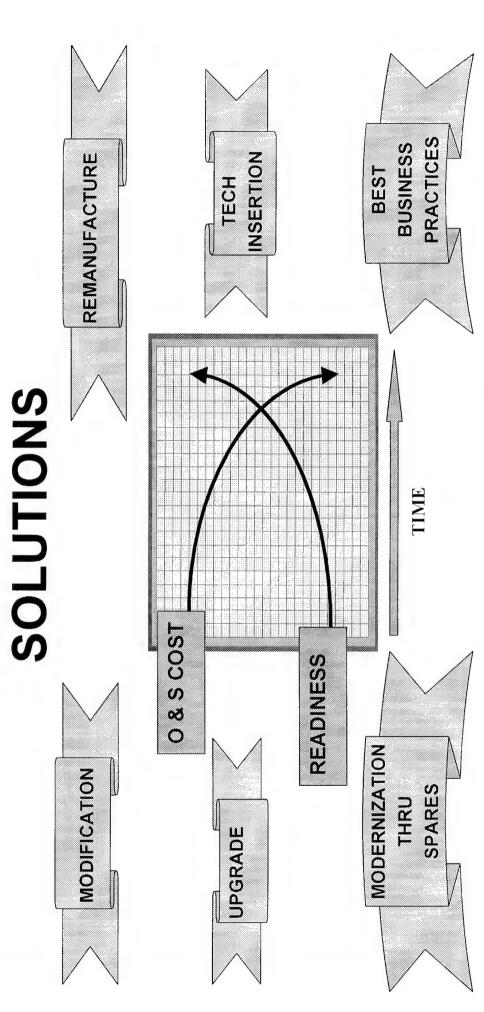
Page 10

■ DAAR-LO



USAR/INDUSTRY PARTNERSHIP





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RESERVE America's Army Reserve

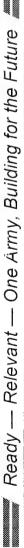


..... the Future Direction

Partnering With The Truck Industry

- REMANUFACTURE
- TECH INSERTIONS
- PRODUCT IMPROVEMENTS
- REPAIR PARTS DISTRIBUTION
- **MODERNIZATION THRU SPARES**
- **NEW BUYS**
- PRODUCTION SURGE
- **MULTI-USE/PURPOSE VEHICLES**
- COMMERCIAL MODELS **MILITARY ADAPTATION OF**

remanufacturing the strategy is tiered to remaining vehicles for the lower tiers. field FP1&2 with new vehicles and **USAR** fielding





SUSTAINMENT INITIATIVES





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TEMII COM		HEIMIII Common Bridge Hamsport (CDI).	(CD1):	
	QTY	QTY NEW COST	CONVERSION	COST SAVING
FY95	100	\$10,300,000	88,500,000	\$1,800,000
FY96	102	\$10,506,000	88,670,000	\$1,836,000
FY97	28	\$2,884,000	\$2,380,000	\$ 504,000
FY98	10	\$1,030,000	\$ 850,000	\$ 180,000
FY99	40	\$4,120,000	\$3,400,000	\$ 720,000

- · Army Reserve Has Five MTOE Multi-Role Bridge Companies
- · Combines Both Float and Fixed Bridging Into One Unit
- · Will Be FSP 1 or 2
- · Each Company Authorized 56 CBTs
- · HEMTT CBT Is a Pacing Item.
- .USAR Initiated a Program to Convert HEMTTS to the CBTs to Meet Requirement

WORK TO BE COMPLETED AT VARIOUS SITES IN U.S. (OSHKOSH, WI)



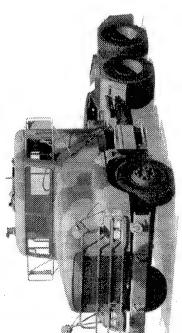
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RESERVE America's Army Reserve







FY98	QTY 2	NEW COST \$ 234,000	REFURB \$ 169,000	COST SAVING \$ 65,000
FY99	09	\$7,020,000	\$5,070,000	\$1,950,000

Tactical Wheeled Advanced Technology Demonstrator--Proven Performance:

Army Reserve Force XXI Contribution

- Showcased Potential Applications of Emerging Technologies

- Decreased Costly Vehicle Life Cycle Maintenance
- Enhanced Crew Performance and Safety
- Developed Smart Business Practices

Collision Avoidance System Electronic Stroke Alert Safety Package Heads-Up Display

Efficiency Package Dial your Oil Change Never Lo Oil System Prelube Starter

Enhancement Package Muffler Silencer Rust Protectant Proheat System

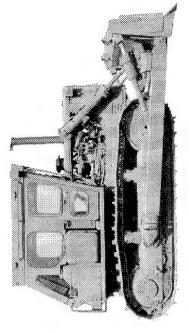
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OTHER

INITIATIVES



D7F Dozers:

COST SAVING	\$24,198,000	\$11,698,000	\$1,021,4000
REFURB	\$12,042,000	\$ 5,822,000	\$ 418,600
NEW COST	\$36,240,000	\$17,520,000	\$ 1,440,000
QTY	151	73	9
	FY96	FY97	FY98

000 4000 ,000

USARC Conducted Comprehensive Inspection and Analysis of the Total USAR D7F Fleet.

- · TACOM/Partners in Industry Designed and Implemented a Total Rebuild Program.
- Took Broken Down System, Refurbished It, Returned New System-With a New Warranty.
- 230 of the USAR D7F Fleet Has Been Refurbished.

WORK TO BE COMPLETED AT VARIOUS CATERPILLAR SITES IN U.S. (IL, WI, AL, SC, IA, NY, MI, AK, PA, CA, FL, MA, VA, NM, KY, MD, AR, PR, OK, MN, CO)

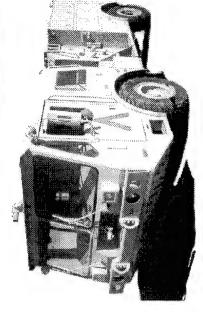






FUTURE INITIATIVES

Fire Truck Assessment:



FY99 QTY

EST NEW COST \$26,250,000

EST GLIDER COST* \$15,000,000

- Industry Partner Conducted Comprehensive Inspection and Analysis of the Current Army Reserve MAC I Fire Trucks.
- Objective to Identify and Document Any Major Safety or Operational Problems and Shortfalls.
- Visited 13 Sites, Major Manufacturers, and Interfaced With Users and TACOM.
- Recommendations Provided for Best Method of Overcoming the Problems and Shortfalls.
- · Options Include IROAN Program, Glidering the Fire Trucks, Partial Upgrades, or Buying New Vehicles. Decision Pending.
- · DA Prepared to Buy HEMTT Firetrucks for USAR.

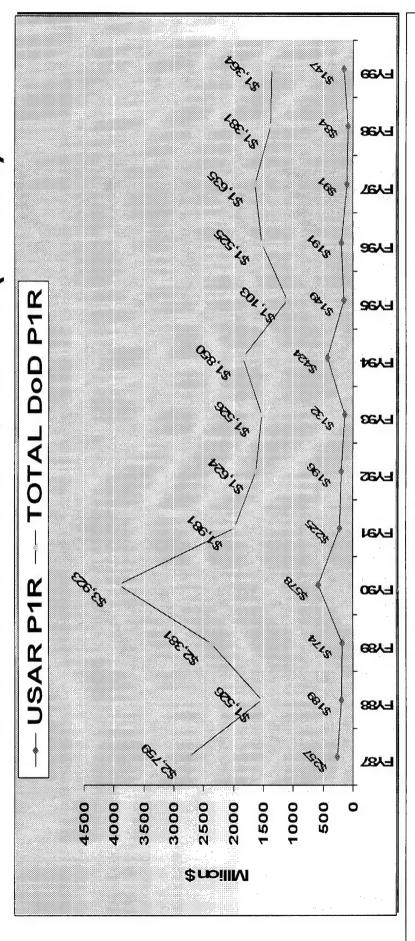
*Gliding Firetruck would require retaining the chassis and axles







Procurement Exhibit (P-1R) Reserve Components



Programs (P-1) exhibit and reflects the Service estimate for those funds which will be used to procure equipment for the National Guard and Reserve. (Does not include NGREA or Congressional Adds.) The P-1R is only a snapshot The Reserve Components Procurement Exhibit (P-1R) is a subset of the Department of Defense Procurement of a point in time. Fiscal resources, programmatic, and priority changes may have revised data shown above.

Ready — Relevant — One Army, Building for the Future



PRESIDENT'S BUDGET



P1R

FY99 P1R

\$147.0M

\$84.4M

FY98 P1R

High Mobility Trailers Dmntble Cargo Beds PLS Trailers

4605

40.85

PLS CHU

W6.818

SemiTrailer Cgo Van

High Mobility Trailers **HEMMT Wrecker** PLS-CHU 10. AD SS 41. AS W. G. Wa. NO.618 Vibratory Roller Pusher Tug DEPMEDS TEMOD HYEX

46.605 Field Medical Eqpmn Smoke Generators 20T Dump Truck **Generator Sets** (M56 & M58) Rock Crusher Pusher Tug DEPMEDS TEMOD ATLAS HYEX

LVOSS

10.525

- AIRCRAFT (<1%)</p>
- AMMUNITION (8%)
 □ WEAPONS/TRACKED CBT VEH (5%)
 □ TACTICAL WHEELED VEHICLES (13%)
 COMMUNICATIONS/ELECTRONICS (30%)
 OTHER SUPPORT EQPMNT (44%)
 - OTHER SUPPORT EQPMNT (44%)

WEAPONS/TRÀCKED CBT VEH (1%) TACTICAL WHEELED VEHICLES (4%)

AMMUNITION (5%) AIRCRAFT (11%)

COMMUNICATIONS/ELECTRONICS (56%)

OTHER SUPPORT EQPMNT (23%)





CONGRESSIONAL ADDS

FY98 Congressional

Adds

\$8.0M

\$8M - All Terrain

USAR

ARNG

■ USAR FY99 Congressional

\$9.5M

Adds

■ ARNG

USAR \$8M - All Terrain Crane \$1.5M - HYEX

Laser Leveler

\$ 3M - UH-60L Blackhawk Kits \$95M - Bradley FV Upgrades

\$ 5M - MELIOS NVD

\$56M - Paladin \$40M - FASV

\$83M - UH-60 Blackhawks

\$ 3.0M - R2000 Eng Flush Sys \$13.2M - Medium Truck ESP 3.0M - Engagement Skills \$70.0M - Bradley Upgrades \$58.1M - UH-60 Blackhawk \$ 3.0M - AH-64 VMES \$44.0M - SINCGARS \$30.0M - MLRS

\$224.3M

\$282.0M

CONGRESSIONAL ADDS ARE COMBAT ARMS AND COMBAT SUPPORT ORIENTED

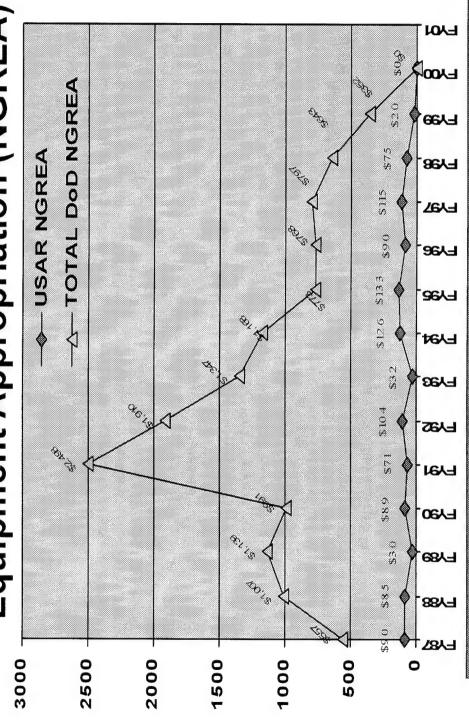
Ready — Relevant — One Army, Building for the Future



National Guard & Reserve



Equipment Appropriation (NGREA)



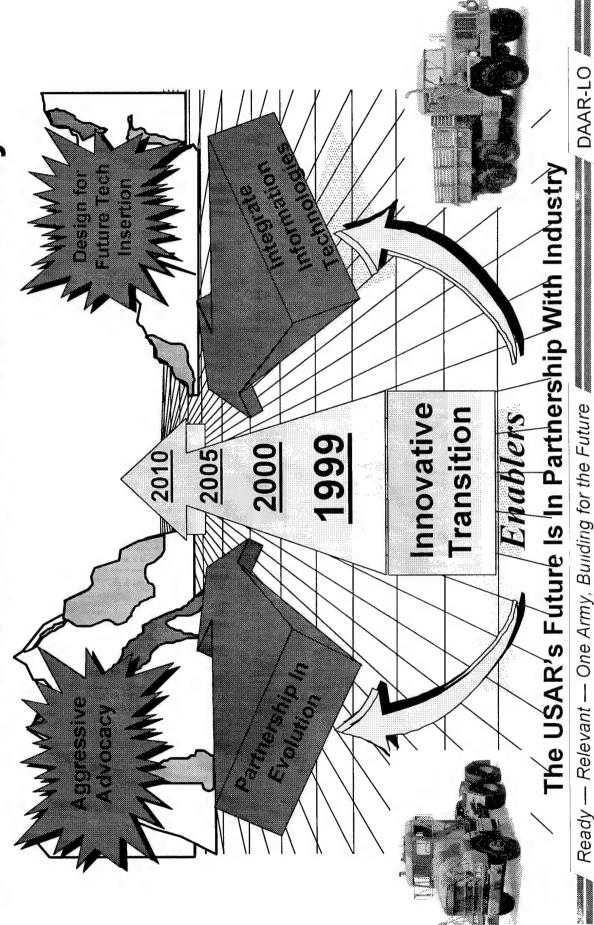
\$noillM

ongress expects DoD and DA to fund Reserve Component Equipment Procurement Without NGREA. Declining NGREA reduces the flexibility needed to pursue priority equipment acquisition.

Ready — Relevant — One Army, Building for the Future

RESERVE What We Need From Industry





Ready — Relevant — One Army, Building for the Future



RESERVE America's Army Reserve



A value-added leader in America's Army and the Nation ...

... trained, ready, and relevant ... enabling and war to achieve the Army in peace total victory.



Ready — Relevant — One Army, Building for the Future

Tactical Wheeled Vehicle Conference

1 February 1999

The Army's Materiel Command



Strategic Intent: "To Be the Army's Materiel Command... Relevant, Responsive, and Ready!"

Fhe Army Vision



- A values-based organization
- An integral part of the Joint Team
- weapons and equipment the Country Equipped with the most modern can provide
- Able to respond to our Nation's needs
- arkpsi Changing to meet the challenges of today...tomorrow...and the 21st

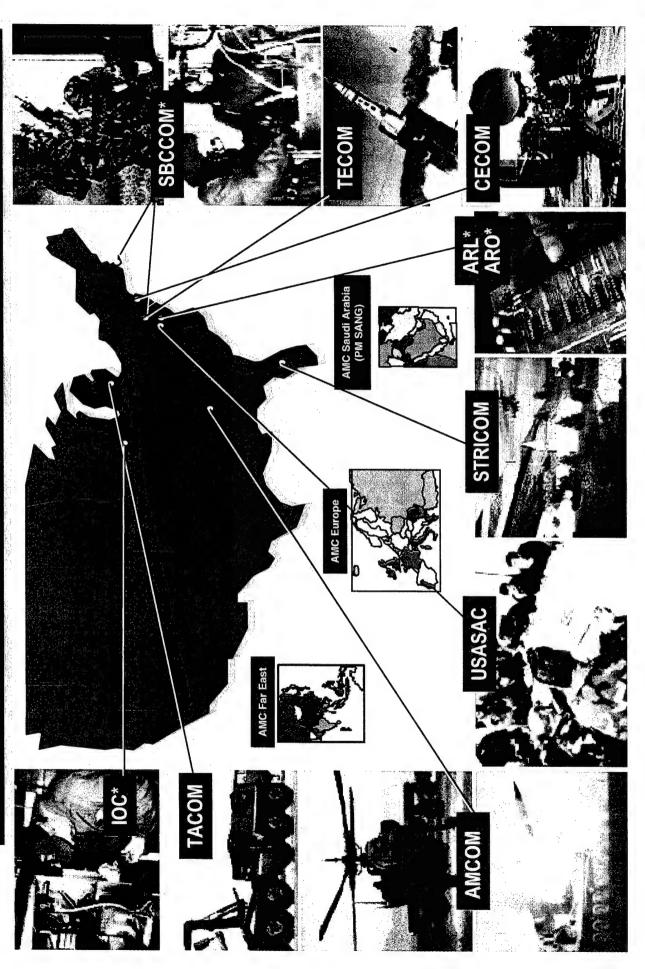
"Soldiers Are Our Credentials"

The AMC Vision

equipping and sustaining America's Army through superior technology support assuring decisive victory." worldwide power and responsive "The Leader in projection and

"America's Arsenal for the Brave"

America's Arsenal For The Brave



* Major Restructure on 1 October 98



AMC Business Includes

Ammunition Wholesale Stockpile Total: 3.2 Million Tons

\$22.4B Conv Ammo \$10.8B Missiles \$33.2B Total



58,158 Civilians

2,714 Military 200,000+ Family

200,000+ ramily Members

Research, Development,

& Acquisition

*Awaiting Filauptomers/EMS

Non-AMC

\$11.5B Reimbursable from

\$19.5 Billion

\$8.0B Direct

Expenditures

 $\mathsf{FY}98^*$



Fest Centers/Ranges

AMC R&D Labs

Depot Maintenance

ACAT I-IV Programs

\$1.7 Billion FY98

Inventories

\$7.27 Billion

(Wholesale Secondary Items)

Requisitions Processed

1.2 Million Army 6.8 Million DLA

(Secondary Items) (\$3.4B Sales \$1.2B Credits

Contracting (FY98)

>24K Actions (>\$25K each) 82% Productivity (Qty) 47% Productivity (\$\$\$) Outsourcing Trend (FY98)

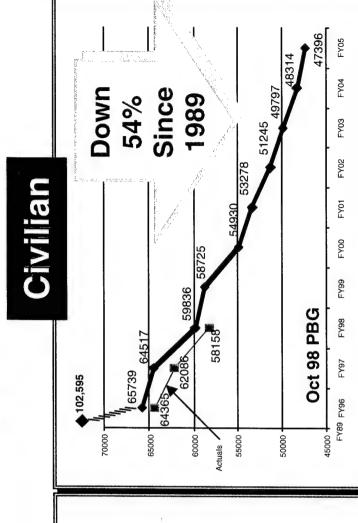
Depot Maintenance 35% Tech Base 67% BASOPs 28%

Z



AMC's Manpower Targets

Military



Since

82%

1989

4841

Down

8,937

Current Program Budget Guidance Calls for:

Oct 98 PBG

Eliminating 1,074 (or 39.5%) of Soldiers Between End FY98 and FY01

Eliminating 10,762 (or 18.5%) of AMC Civilian Workforce Between End FY98 and FY05

/Retirement Eligible: 1989: 15% 2004: 50%

 $\int Age \ of AMC$ Workforce:

Average

Workforce: 1989: 42.1

Today: 47.0



AMC Today – And Into the Future – Means...

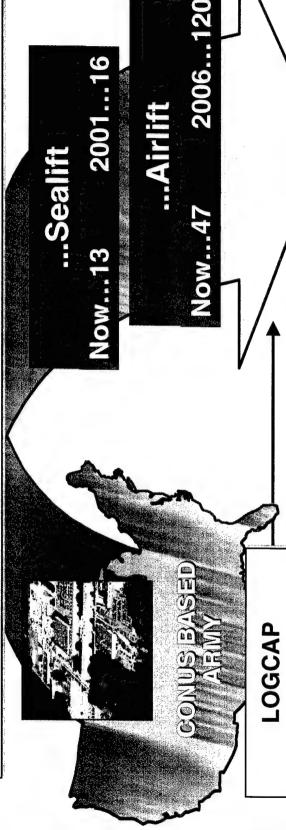


Information Technology - A Key Enabler -

Generate Warfighting Capability...One-of-a-Kind Integrator...Capital Asset

ogistics Power Projection

Shifting Focus from Stockpiles in Theater to Power Projection of Mobil Stocks



APS

Wholesale Log Mod

SM

Single Stock Fund



Geogra

Sustainment Stocks

(DPG Based)

-\$2.1B in Offsets \$6.9B Required

CO ED On Hon

OP Project Stocks

Norway:

Sustainment Stocks Sustainment Stocks 155 SP FA Battalion

Stocks (APS)

APS-4 PACIFIC

Japan: OP Project Stocks **Sustainment Stocks** OP Project Stocks Korea: 2X1 Brigade

Sustainment Stocks

APS-5 SW ASIA

CON

Sustainment Stocks OP Project Stocks Kuwait:2X1 Brigade

Qatar: 2X1 Brigade IT Corp

Sustainment Stocks LSI Corp

CHARLESTON APS-3 HQ

EUROPE

APS-3 AFLOAT

Sustainment Stocks Dyncorp-Afloat: 2X2 Brigade OP Project Stocks

Maintenance Surveillance

AFLOAT APS-3

5 Locations;

\$6.9B Requirement;

Project & Sustainment Stocks

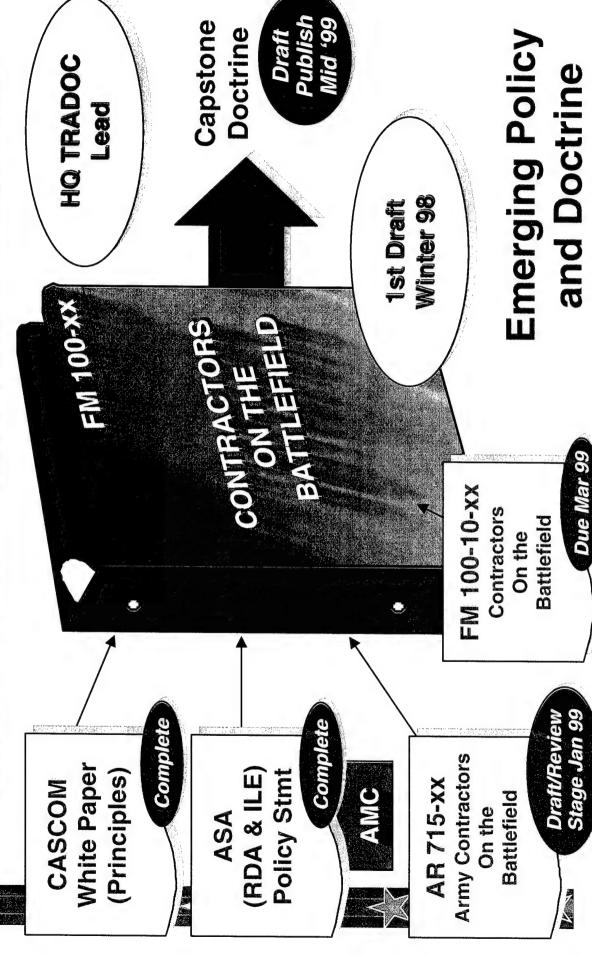
APS-Afloat

- 8Transloads through Nov 00
 - End State 16 Ships
- 30-36 Months Maint Cycle

119



Civilian Contractors on the Battlefield



America's Ability to Fight & Win is Priority #1

Civilian Contractors on the Battlefield Play an Increasingly Important Role

- Civilian Contractors are Integral to Army Field Sustainment
- Pressure to Outsource & Privatize are Increasing & Make Good Business Sense... in many cases
- Challenges Related to Contractors on the **Battlefield Must be Addressed**







Acquisition Excellence

REVOLUTIONIZING ACQUISITION

Procurement Lead Time Reduction Administrative Lead Time/

> **Modeling &** Simulation

Credit Card

Prime Vendor Support

Modernization thru Spares

Virtual Testing

Independent Cost as an Variable

Roadshows

COTS

Best Value

Performance Past

Performance Specifications

Process Development Integrated Product &

Partnering

OSCR/TOC

Electronic Data Interchange Electronic Commerce /

Process Initiative Army Single

Contracting

Corporate

E NEED INDUSTRY HELP

ninistrative/Production Lead Time (ALT/PLT)

HE DROMISE								
	7	<u>\</u>	>	>	1	>	X	
	26	86	66	00	01	05	03	
\$M								POM
	0	0	0	0	0	0	0	0
avings (SMA DBOF)	195*	20	27	4	4	12	10	322
	195	20	27		14 14	12	9	322

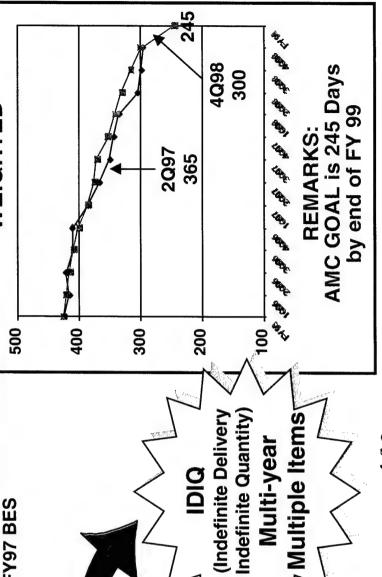
Represents Lead Time 77% of Our Current

T/PLT GOALS: WEIGHTED DOLLAR



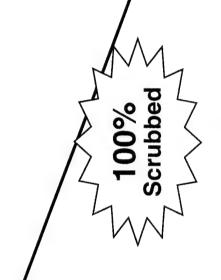


- **Electronic Ordering**
- Ordering Officers
- Data Base Scrubs Best Value w/
- Independent Variable schedule as an



Acquisition Excellence

MIL SPECS AND STDS REFORM



Army Completed Review of 12,354 Specs & STDs

DUSD(AR) PAT
Team Led by
AMC Principal Deputy
for Acquisition

"...moving to greater use of performance and commercial specifications is one of the most important actions that DoD must

BLUEPRINT FOR CHANGE

STDs: Canceled 131 Inactivated

139 Converted

SPECs:

2108 Canceled

2922 Inactivated

776 Converted 3890 Transferred to DLA

Retailed as Detail (Includes 1458 by Institute of Heraldry 2212

Challenging Four Year Goal Successfully Completed in Oct 98

A Case Study in Progress!

take to ensure we are able to meet our military, economic and policy

objectives in the future."



Electronic Contracting

We're on the Web

Moving to "Paper-Free" Acquisition

"One Stop" Entry Point for Industry into AMC

Business Process:

Contracting Opportunities Across Army via Web Page Links

View RFPs / IFBs / RFQs

View Attachments / Exhibits "Online"

Automated Link to Tech Data Packages

Electronic Downloading via Modem

Contracting Guides

Past Performance Pamphlet

FAR / DFAR Links

www.army-acquisition.net



Acquisition Business Web Site

"Serving the U.S. Army Acquisition Community"

Acquistion Business

Solicitations.

Executive Information System, Clectronic Commerce Links, Registration and Feedback Solicitation Maintenance.

Your extry to all open Army Soholtations Army Contracting Opportunities

Source Selection Resource Center Obtain Source Selection Guidance: **Best Value**

Oral Presentations Pest Performance

Acquisition Tool Set

Rid & Response Gathering: Requirements Feedback Downtoed Documents

125

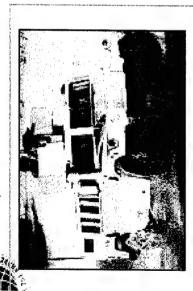
AMC Science & Technology Team

Research, Development Communications-Electronics & Engineering Centers Maintenance System Outsourced Advanced Tech. Dev. 71% S&T Vehicle Propulsion Advanced Combat Natick & Edgewood (RDECS) 6.3 Integrated System **Armament** Tank-Automotive **Applied Research** High Performance Technology program Annexes Maintenance 6.2 **Algorithms** Predictive Engines **Outsourced** 42% S&T **Army Research Basic Research** Laboratory High Pressure (ARL) **Atomization** Diagnostic / **Prognostic** 6.1 Sensors

ARL & RDECs provide the S&T necessary for decisive victory.

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AMC R&D Partnerships with Industry and Academia





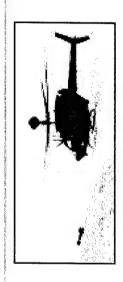


- **DoD Agencies**
- Dept of Education
- Dept of Commerce
- Dept of Transportation
 - Academia Industry

Chrysler

General Motors Ford

\$19M







Collaborative Rotorcraft R & D between...

- Army and Navy
- Fed Aviation Admin (FAA)
 - Academia
 - Industry

Sikorsky Boeing Bell



Army Federated Labs ARL

Partnering Science and Technology with...

- Universities
 - HBCU/IMI
- Industry
- Adv Sensors **Telecomm**

Adv Displays

Lockheed Sanders

Motorola

MIT

\$22M

Partnering is critical to making technology work for soldiers.

echnology Generation and Applicati

ARL Project:

Consumption by Reduce Fuel

75% before 2020

Interface Driver

Devices

Tracking System **Technology** Movement with GPS

(Night Vision Technology) **Enhancement Driver Vision**

Run Flat Tires Countermine Capability With

> **Protection** Enhanced Crash

Diagnostics Smart

Diesel Engine Lightweight

Advanced Injection Fuel

Tire Inflation Monitoring System Status

Armor

Anti-Lock Braking

mechanical Electro-

Suspension Lightweight

Fuel Cells

Smart Charger Smart Battery

rucks: What It Takes

TANKS = 116 TRACKS= 240 HOWITZERS = 18



PLS = 40 TOTAL = 658

5 TON = 84 HEMTT = 94

2-1/2 TON = 139

HMMWV = 301

TANKS = 203TRACKS = 721

HOWITZERS = 54 MLRS = 18

DIVISION XXI

HMMWV = 19142-1/2 TON = 673

5 TON = 549 HEMTT = 426

2-1/2 TON = 3,640

HMMWV = 11,565

FOTAL = 3751

PLS = 165HETS = 24

> 5 TON = 4,695 HEMTT = 424

PLS = 180 HETS = 481

TOTAL = 20, 986

SINTALE SI SOLONALI SELLOS

"SOMETIMES SOLDIERS
LIKE ME NEED TO BE
REMINDED THAT TRUCKS
ARE AS IMPORTANT
AS TANKS"
GEN. NORMAN SCHWARZKOPF

19, 229 VARIOUS TRUCKS

TAACOM



1399.Tact -18 01/29/99

America's Army - Bosnia Deployment

TRUCKS IN BOSNIA TO

CUCV = 420

DATE

HMMWV = 3,452

2-1/2 TON = 558 5 TON = 1,675

KAPOSVAR

ENGR TRK = 58 LINE HAUL = 79

HEMTT = 330PLS = 108

HETS = 72

TOTAL = 5,077

UNIT AREAS

- **BAUMHOLDER**
- **BAD KREUZNACH**
- KAISERSLAUTERN

MAIN SUPPLY ROUTES: **719-868 MILES** HIGHWAY

> STAGING BASE INTERMEDIATE

FUEL SUPPORT REQUIRES 137 5,000 GALLON

TANKERS

TUZLA

RIVER SAVA_

ZAGREB

MAIN SUPPORT AREA

1399.Tact -19 01/29/99

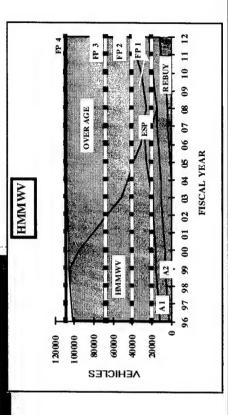
ruck Requirements

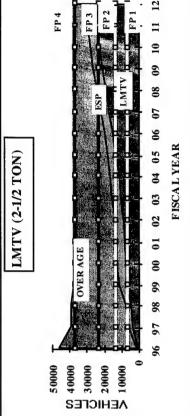
Support the Fleet

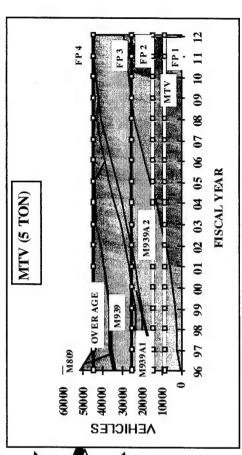
Light 124,170 Medium 83,551 Heavy 30,474 Total 238,195 Does Not Include COMPO 4

By FY 97 590% 2.5 Tons 34% 5 Tons OVER AGED!

By FY 00 4 77% 2.5 Tons 22% 5 Tons OVER AGED!



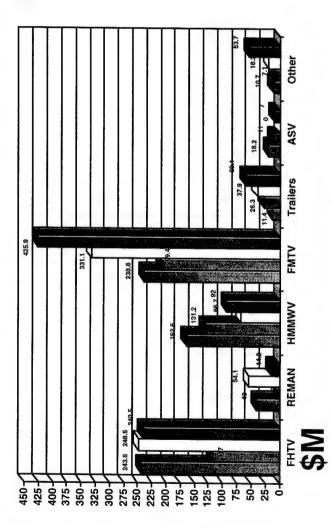




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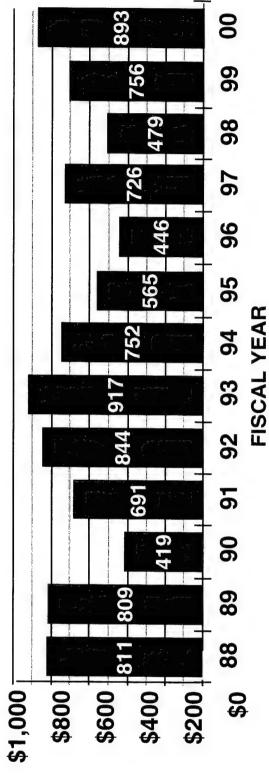
rucks Update & Procurement Trends

Tactical and Support Vehicles - 1997 - 2000



1997 TOTAL \$725.7M

1998 TOTAL \$479.3M 1999 TOTAL \$756.M 2000 TOTAL \$893.5M



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WE NEED INDUSTRY HELP... Partnering With Industry

National Automotive Center Examples

- **Lightweight Diesel Engine Cummins**
- Protective Coatings Polymer
- * Smart Diagnostics Hughes
- Run Flat Tires with Countermine Capabilities -Hutchinson
- Electro-mechanical Suspension System -**University of Texas**



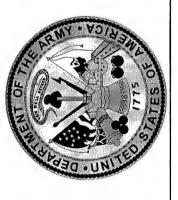
- * Change in Environment From Military-Industrial Complex to an Industrial-Military Complex
- Requirements Based on Capability Instead of Threat
- * AMC Has an Increased Role in TWV
- * Budget Pressures Are a "Fact of Life"
- Congressional Plus-Ups Have Helped in the Past
- Keen Interest in FMTV Production
- Other Customers Continue to Support Remanufacture
- Paradigm Shift From a Supply-Based Distribution * Trucks Will Be More Important Than Ever in the System to a Transportation-Based Distribution System, Especially PLS
- * Industry Has Truly Served the Army Well

Thanks For Your Support to the Army

SOLDIERS Are Our\Credentials!

VEHICLE CONFERENCE - "HOW HEALTHY IS OUR FLEET?" [999 TA©TICAL WHEELED **ODCSOPS PERSPECTIVE**







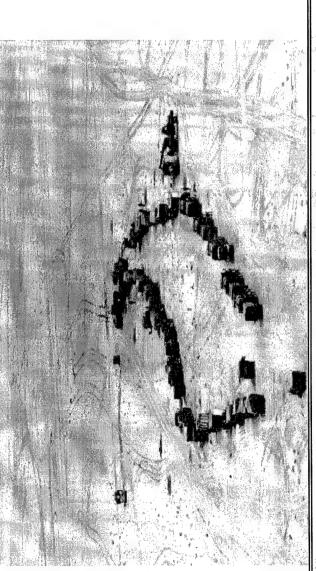
FEBRUARY 1, 1999

COL(P) MICHAEL A. VANE DIRECTOR OF INTEGRATION ODCSOPS

SOLDIERS Are Our Credentials!



TOPICS



- MODERNIZATION AND FUNDING
- INITIATIVES
- NEW DIVISION DESIGN
- ECONOMIC USEFUL LIFE
- RLEET STATUS
- SUMMARY



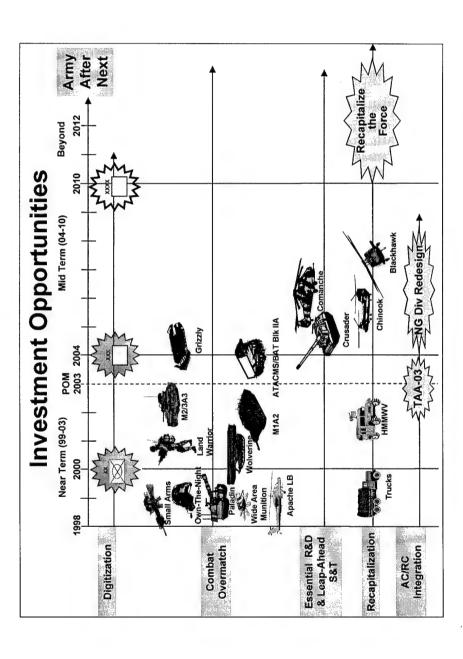
ARMY TOP 10

- Non offset funding for all Contingency Operations
- Quality of Life ISSUES (Pay, Pay reform, Retirement benefits, Housing and Medical)
- Support Army Endstrength & Manyears (AC; RC; Civ) Initiatives
- Fund O&M as allocated and at least to the requested level:
 - Ground OPTEMPO and Flying Hours (All Components)
 - BASOPS and RPM
- Depot Maintenance
- Fund Digitization, FORCE XXI and AECP as Requested 5
- Technologies across C4I and weapons platforms
 - FDD by FY 00 and an FDC by FY 04
- 6. Total Army Force Integration.
- 7. Critical Warfighter Initiatives
- Comanche
- Crusader
- 3. Institutional Training Policy
- Preserve MILCON (1+1 Barracks initiative and Deployment Platforms)
- Strategic Mobility (infrastructure, Prepo Bde Sets and Strategic Lift)

SOLDIERS Are Our Credentials!

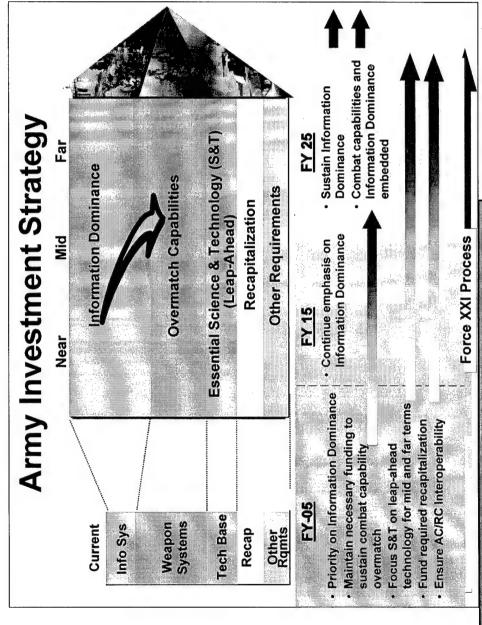


ARMY INVESTMENT OPPORTUNITIES



SOLDIERS Are Our Credentials!

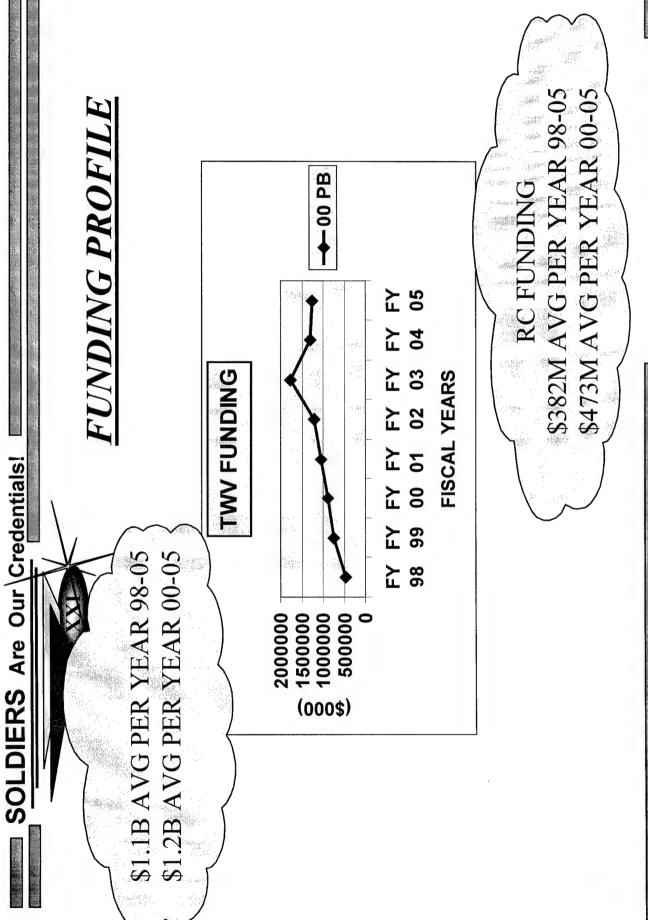
ARMY INVESTMENT STRATEGY





FUNDING FACTS

- DEFENSE BUDGET IS 3 PERCENT OF THE GROSS DOMESTIC PRODUCT.
- DEFENSE BUDGET IS 15 PERCENT OF THE FEDERAL BUDGET.
- THE ARMY BUDGET IS 25 PERCENT OF THE DEFENSE BUDGET.
- RESEARCH DEVELOPMENT AND ACQUISITION (RDA) IS 19 PERCENT OF THE ARMY BUDGET
- TRUCK PROCUREMENT IS 7 PERCENT OF THE RDA BUDGET



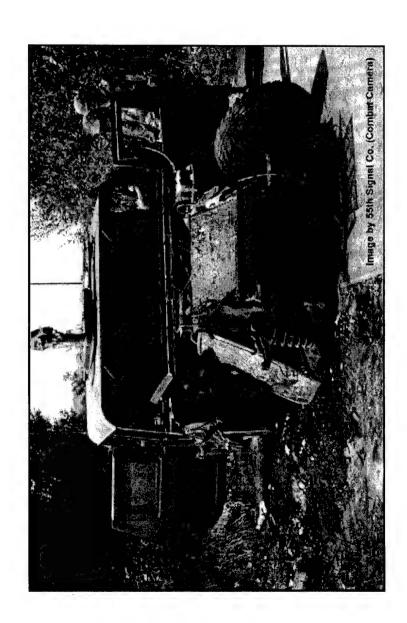


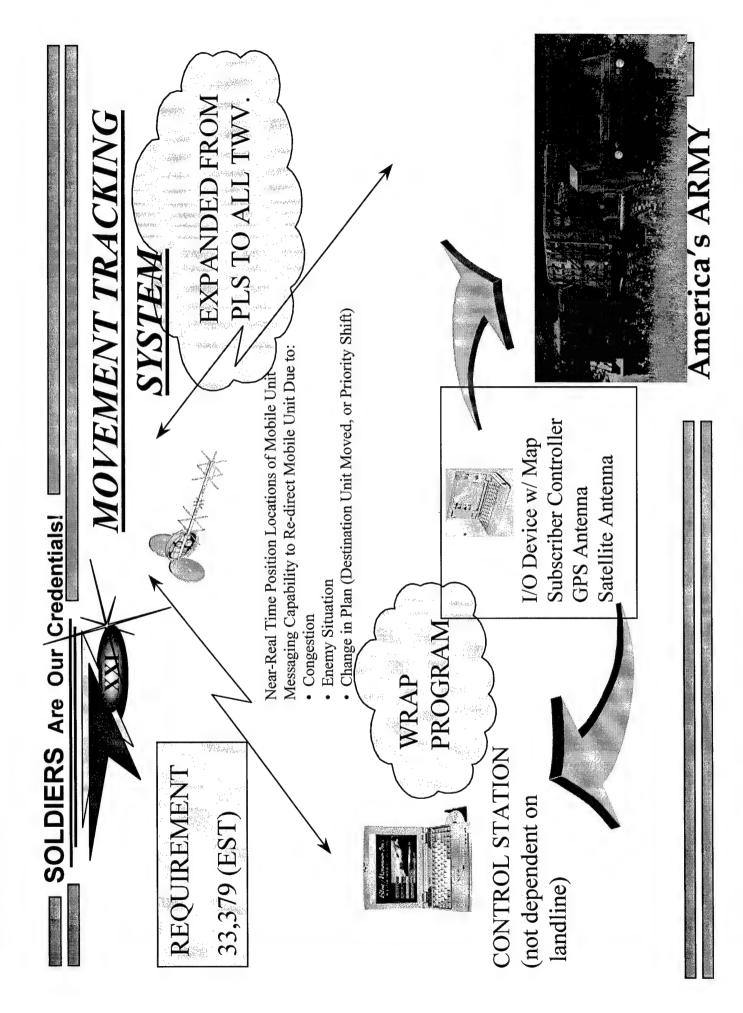
CENTER (NAC)

- PART OF THE TANK-AUTOMOTIVE AND ARMAMENTS COMMAND (TACOM)
- DOD FOCAL POINT FOR COLLABORATIVE AUTOMOTIVE R&D WITH INDUSTRY, ACADEMIA AND OTHER GOVERNMENT AGENCIES
- RESPONSIBLE FOR ACCELERATING THE INFUSION OF COMMERCIAL TECHNOLOGY INTO MILITARY LAND WARFARE SYSTEMS
- THROUGH STRATEGIC, COST-SHARED PARTNERSHIPS; ARMY'S LEADER IN LEVERAGES DOD INVESTMENT IN MILITARY LAND WARFARE SYSTEMS **DUAL-USE APPLICATION**
- FOCUS IN FIVE TECHNOLOGY AREAS: FUEL EFFICIENCY, VEHICLE MODERNIZATION, SAFETY, MAINTENANCE AND LOGISTICS, AND MANUFACTURING INNOVATION
- PRESENT INITIATIVES: HYBRID ELECTRIC, ADVANCED DIESELS, FUEL CELL OIL REUTILIZATION, SMART TRUCK TECHNOLOGIES, AND COLLABORATIVE HYBRIDS, NEXT GENERATION TACTICAL TRUCK TECHNOLOGIES, WASTE



<u>CREW</u> <u>PROTECTION</u>





• HMMWW + 22

• ASV + 29 • LMTV -102

• MTV - 57

• HEAVY +84

DIVISION DESIGN COMPARE

• TRAILERS -25 • TRUCKS -24

INCREASE IN HEAVY
MORE EXPENSIVE
VEHICLES.

AOE vs D-XXI HEAVY MECH DIVISIONS

TACTICAL WHEELED VEHICLES

					•	TO LOCAL WILLIAM VEHICLES	j		ij	2				
		AOE	DXXI				AOE	DXXI				AOE	DXXI	
Z	TYPE	ΩT	ΩTY	4	Ë	TYPE	αTΥ	QTY	V	L	TYPE	QTY	QTY	٥
D34883	D34883 DOLLY MOBILIZER, M1022	7	7	0		T45465 HEMAT, TRL, M989A1	71	208	137		T96838 FLT BED TRL, 7.5-TON, M1073	22	80	-14
G34805	G34805 DOLLY MOBILIZER, M720	13	10	5-		T58161 HEMTT, TNKR W/W, M978	56	33	7	W95811	W95811 1-1/2T TRL, M105	54	36	-18
S70027	S70027 SEMI TRL, FLT BED, M871	115	44	-71		T59048 HET, TRACTOR, M1070	24	24	0	W98825	W98825 WATER TRL, M149	199	184	-15
S70243	S70243 SEMI TRL, WRKR, M270	1	1	0	T59278	T59278 HEMTT, CGO, M977	112	25	-87	Z06421 ASV	ASV	0	29	29
S70517	S70517 SEMI TRL, LOWBED, M172	10	9	4	T60081	Т60081 LMTV, CGO, М1078	582	505	-11	Z36068	Z36068 LMTV, TRL, M1082	503	352	-151
870859	S70859 HET TRL, M1000	24	24	0	T60149	T60149 LMTV, CGO W/W, M1078	137	103	-34		Z36204 1-1/4T TRL, M1102	100	144	44
S73372	S73372 SEMI TRL, 5,000 GAL, M969	70	74	4	T61103	T61103 TRUCK TRAC, LINE HAUL	-	0	7	Z36272	Z36272 3/4T TRL, M1101	404	460	99
S74832	S74832 SEMITRL, VAN, M749/M750	23	15	æρ	T61239	T61239 MTV, TRACTOR, M1088	241	187	-54	Z62562	Z62562 HMMWV, EXP CAP, XM1113	61	59	-2
875038	S75038 SEMI TRL, VAN, M146	2	0	ဌ	T61307	-5 T61307 MTV, TRAC W/W, M1088	12	16	4	Z62630	Z62630 HMMWV, ARMD, XM1114	133	106	-27
S75175	S75175 SEMI TRL, VAN M129	22	46	6-		T61494 HMMWW, CGO, M998	1201	1237	36	Z90712	Z90712 MTV, TRL, M1095	38	34	4
T07679	T07679 HMMWV, HVY, M1097	326	368	42		T61562 HMMWV, CGO, W/W, M1038	126	98	-28	294047	Z94047 MTV, TANKER, M1091	56	32	-24
T38844	T38844 HMMWV, AMBULANCE, M997	27	27	0		T61704 MTV, LWB, M1085	33	17	-16	Z94560	Z94560 MTV, EXP VAN, M1087	44	72	28
T39518	T39518 HEMTT, CGO W/W, M977	53	132	79		T61772 MTV, LWB WW, M1085	-	0	7		TOTALS	5527	5478	49
T39586	Т39586 НЕМТТ, СGO, М985	36	48	12		Т61908 мтv, ссо, м1083	133	173	40		DISCOM	1733	2631	868
T39654	T39654 HEMTT, CGO W/W, M985	9	9	0	T63093	T63093 HEMTT, WRKR, M984	51	37	-14		NON DISCOM	3794	2847	-947
Z40639	Z40639 немтт - LHS	0	0	0	T87243	T87243 HEMTT, TNKR, M978	159	145	-14		% of DIV in DISCOM 31.4%	31.4%	48.0%	16.78
T40999	T40999 PLS, W/O MHE, M1075	o	1	102	T92242	102 T92242 HMMWV, ARMT CR, M1025	18	19	1	B83002	B83002 BED CGO, PLS, M1077	108	324	216
T41067	T41067 PLS, W/MHE, M1074	54	54	0		T93484 LMTV, VAN, M1079	26	65	6	Z27727	Z27727 CONTAINER LIFT KIT (CLK)	3	10	7
T41135	T41135 MTV, CGO W/W, M1083	6	4	-5		T93761 PLS, TRL, M1076	6	45	36					
T41203	T41203 MTV, CGO W/MHE, M1084	39	15	-24	T94709	-24 T94709 MIV, WRKR, M1089	38	33	-5					
										UPD	UPDATED 8/10/98			

CURRENT FLEET AGE BY

FORCE PACKAGE AND COMPO

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VEHICLE AGE BY FORCE PACKAGE SHOWS RESULTS OF FIELDING PRIORITIES.



OVERALL FLEET AGE

FLEET AVERAGE AGE 1998 vs END POM/EPA

	ECONOMIC	MAX FLEET AVE %	%	FLEET A	FLEET AVERAGE AGE
VEHICLE	LIFE	AGE OBJECTIVE	OVER	1998	2014
cucv	12	9	21	12.6	A/A
HMMW/	15	7.5	0	7.9	17.0
SUSV	15	7.5	0	7.1	22.9
M151	15	N/A	100	20.7	N/A
M880	7	N/A	100	20.1	N/A
2-1/2 TON	20	10	85	23.3	13.8
S TON	22	7	29	14.3	6.9
PLS	20	10	0	2.4	16.0
HEMTT	20	10	0	10.7	6.7
ENG TRAC	20	10	0	12.8	15.7
LINE HAUL	20	10	0	14.5	12.8
HET	20	10	31	6.2	14.8
YARD TRAC	10	Ŋ	100	16.6	8.3
TOTAL AVG		8.8	23	13.0	13.5

FUNDING IN POM AND EPP JUST MAINTAINS AGE



USEFUL LIFE

DETERMINATION PROGRAM

(TWVULDP)

- METRIC CURRENTLY USED TO DETERMINE FLEET REPLACEMENT TIMES.
- MID 1980'S METHODOLOGY.
- UPDATE REQUIRED BASED ON NEW DATA AVAILABLE FOR FLEET MANAGEMENT.
- PT FORMED IN OCTOBER TO REVIEW. JOINT OPS/SARI CHAIR.
- FLEET PLANNING OFFICE IN TACOM HAS PROGRA LEAD.
- LIGHT FLEET FIRST TO BE REVIEWED.
- FINAL REPORT OCTOBER 1999.

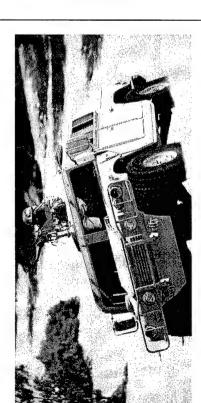


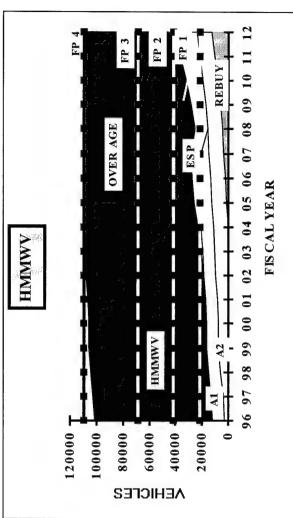
TWV FLEET STATUS

- · MEDIUM
- HEAVY TACTICAL
- HEAVY COMMERCIAL



HMMWV STATUS



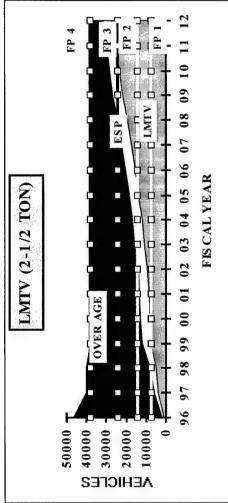


OVER AGE PROBLEM. ANALYSIS BASED ON A0A TO BE WILL REQUIRE ADDITIONAL FUNDING TO COMBAT SUBMITTED TO CONGRESS THIS QUARTER.



LMTV (2-1/2 TON STATUS)

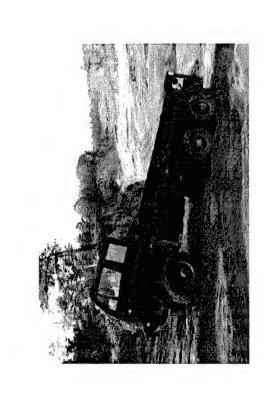


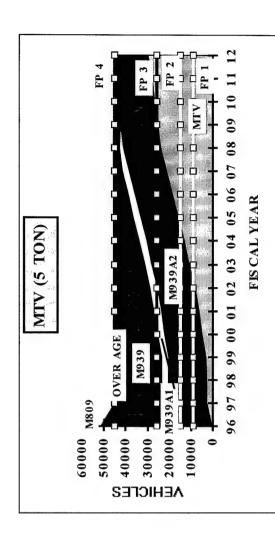


MOVEMENT OF FUNDS FROM ESP HELPS IMPROVEVEHICLEFILL



MTV (5-TON) STATUS

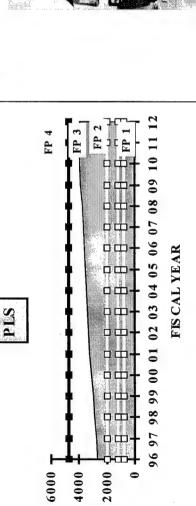




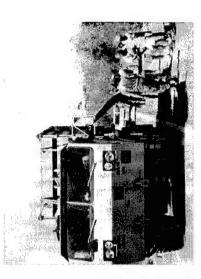
OVERALL THE FIVE TON FLEET REMAINS IN GOOD SHAPE.

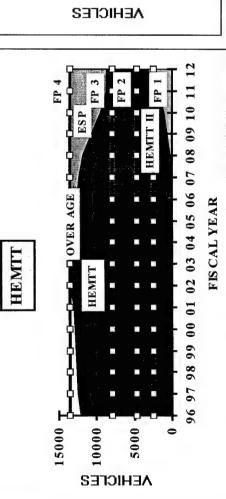


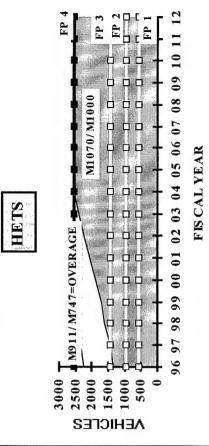
HEAVY TACTICAL TRUCK STATUS



AEHICTES

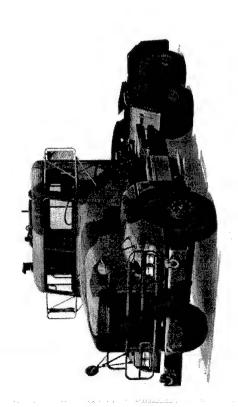


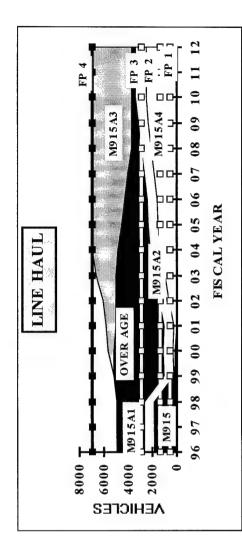




OVERALL HEAVY FLEET IN GOOD SHAPE

LINE HAUL TRACTOR STATUS





LINE HAUL FLEET IN GOOD SHAPE, MAJORITY OF NEW TRUCKS ARE FOR NG AND AR.



CONGRESSIONAL, SUPPORT

KEY PLUS UPS:

- \$3.8M FORWARD REPAIR SYSTEM -HEAVY(FRS-H) - WRAP FUNDING
- \$55M HMMWV PRODUCTION.
- \$13.2M 2-1/2 TON EXTENDED SERVICE PROGRAM (ESP).
- \$6M SELF LOAD/OFF-LOAD TRAILER.

OVERALL: +\$82.6M - \$26.9M = NET \$55.7M



SUMMARY

- FUNDING FOR TACTICAL WHEELED VEHICLES CONTINUES TO HOLD UP WELL.
- LIGHT FLEET AOA BASE FOR FUTURE COURSE.
- NATIONAL GUARD AND ARMY RESERVE TO RECEIVE NEW TRUCKS AND TRAILERS
- METRIC TO DETERMINE FLEET REPLACEMENT JNDER REVIEW.
- THANKS TO INDUSTRY AND CONGRESS FOR CONTINUED SUPPORT OF PROGRAMS

AN ARMY PREVIOUSLY
TRAVELED ON ITS
STOMACH - NOW IT
TRAVELS ON ITS
WHEELS.





1999 NDIA Tactical Wheeled Vehicles Conference

Systems Command Marine Corps

Col Mike Kephart, USMC

Director, Combat Support & Logistics Equipment



Agenda



CSLE Organization

Programs

Future Challenges

What You Can Do

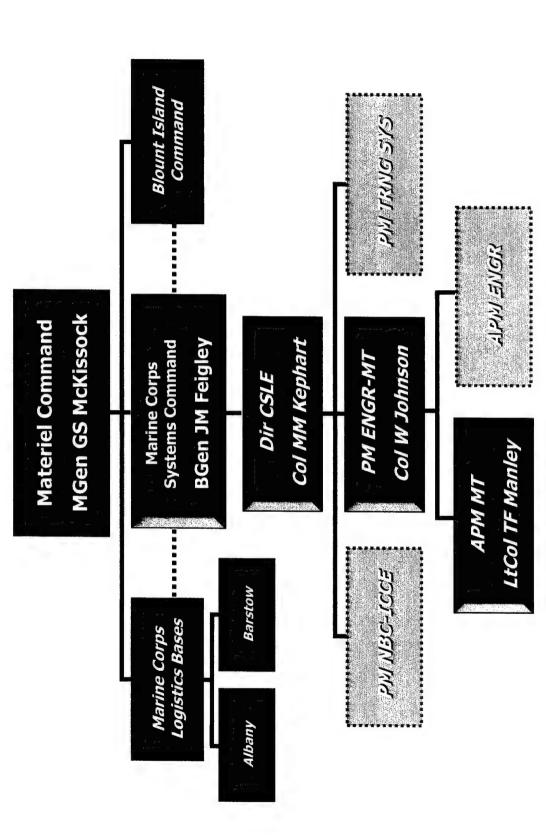
Slide 2

Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command



Marine Corps Materiel Command



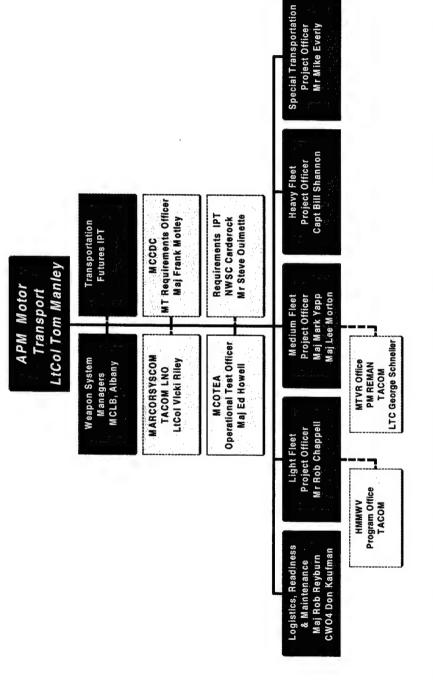


Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command



APM Motor Transport





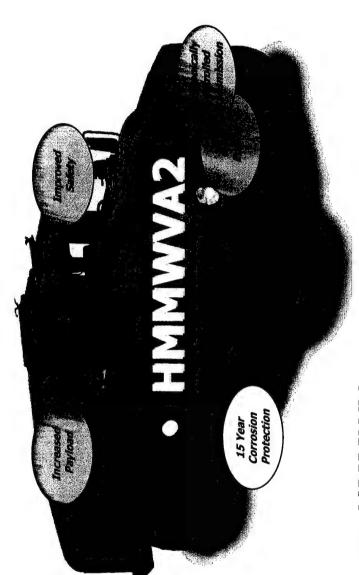
sustainment, of Motor Transport and associated transportation systems in Mission: Provide the management and support for Materiel Life Cycle Management (MLCM), to include research, development, acquisition & order to support OMFTS and STOM while reducing TOC.

Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command



Light Fleet





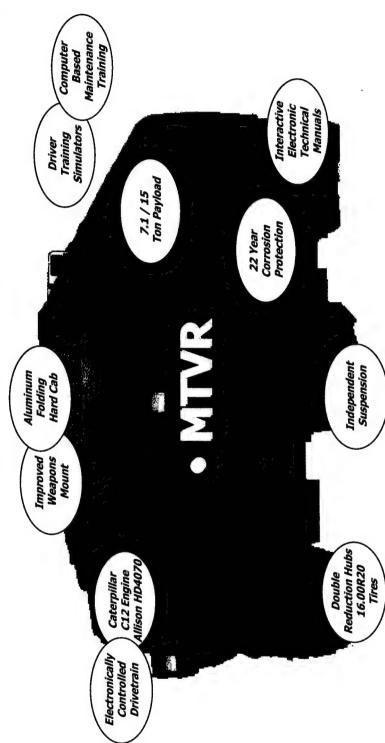
- HMMWV
- M101A3 / M116A3 Trailers
- Internally Transportable Light Tactical Vehicle (IT-LTV)

Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command

lide 5



Medium Fleet



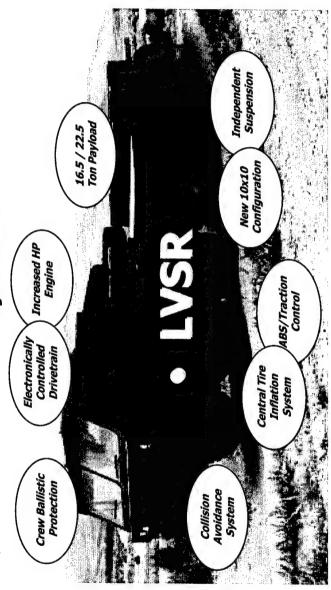
M809/939 5-Ton Series Trucks

Medium Trailers

Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command



Heavy Fleet



- M870A2 Lowbed Semitrailer
- Tactical Fuel Transport & Refueling
- Aircraft Refueling Capability (ARC)
- Commercial Tractor

Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command



Special Fleet





- P-19A Crash, Fire & Rescue
- Heavy Equipment Transporter (70+ Ton)
- Motor Transport Modification Program

Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command



Transportation Futures IPT



Mission: Establish & execute a mutli-disciplinary approach to addressing all the issues related to fielding the current & future fleet of transportation & distribution assets to support future Marine Corps Operations

Goals

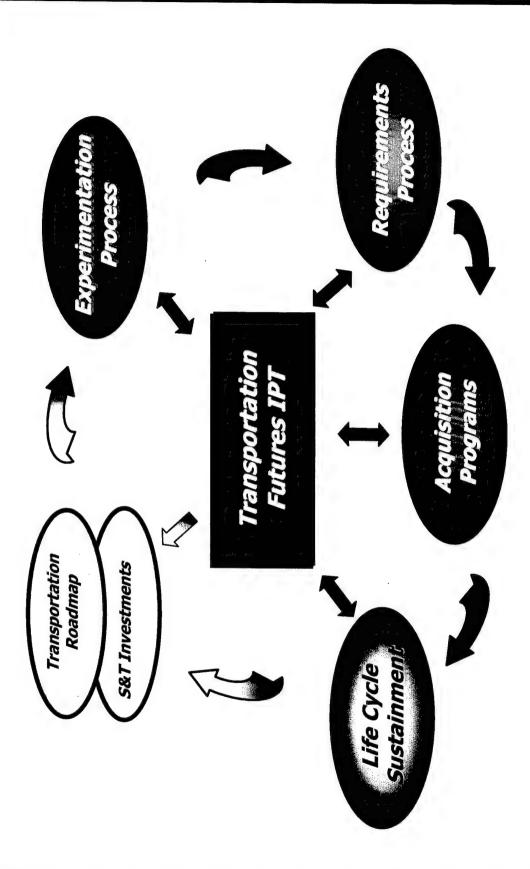
- Establish, refine & reinforce transportation systems acquisition
- Identify & analyze applicable emerging technologies A
- Examine strategies to streamline procurement & fielding
- Identify, analyze & resolve critical programmatic issues
- Provide historical visibility into the decision making process

Meets Quarterly

Provide the Marine Corps Transportation "Roadmap"

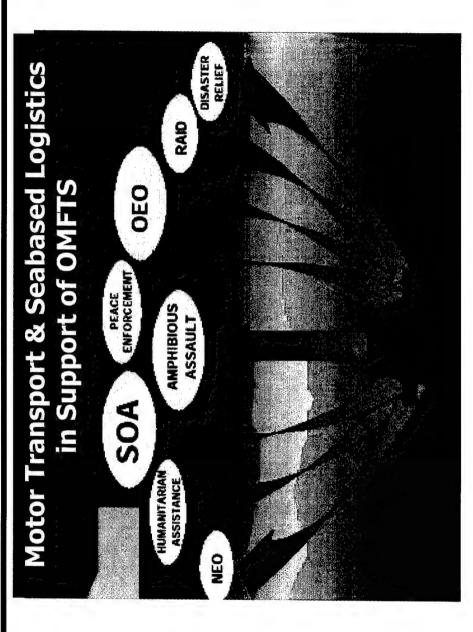


Transportation Futures IPT



Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command





Automated Logistics for Maneuver Units Seabased Support - Light Force Ashore Expanded Missions - Joint Support → Primacy of the Sea Base Reduce or Eliminate the Footprint **Build & Restore Combat Power** → In-stride Sustainment → Adaptive Response → Reconstitute at Sea → Reduced Demand

Combat Support & Logistics Equipment -- Marine Corps Systems Command -- Marine Corps Materiel Command

lide 11



Reduce Burden of Logistics Support



Traditional Logistics Tail Precision Logistics vs

- Logistics Support Systems That
- ✓ Use less fuel
- Require little or no maintenance over a given period, e.g., a month
- > Can predict internal failures
- ➤ Leverage Technology
- → Maintenance free batteries
- → Reusable filters
- → Onboard oil analysis

Logistics Focused on Supporting Operational Forces



Reduce Total Ownership Costs



Maintenance

- > Shorter, more responsive repair part pipelines
- More precise repair parts accountability
- Predictive maintenance capabilities

New Technology

- > Fewer, more reliable batteries
- > Reusable filters & Onboard oil analysis
- Industry Experience & Best Practices

Do It Cheaper By Doing It Smarter



Corrosion Protection



- Corrosion is #1 Maintenance Problem
- ➤ Marine Corps environment
- ▶ BIG impact on vehicle life

Two Approaches

- > Design into new system (MTVR & HMMWVA2)
- ➤ Fixing Existing Systems
- → Less clear solutions
- → Potentially more difficult & costly than new
- What Is Out There & What Can Work?

Makes Otherwise Sound Vehicles Unserviceable



Best Use of Technology



- What is Out There?
- Is It Applicable for ...
- > Insertion into existing systems
- Design into new systems
- What Is Impact on TOC?
- Improve the Process
- > Models & Simulation throughout System Life Cycle
- Integrated Process & Product Development A

More Questions Than Answers



What You Can Do



- Let Us Know of Ways to Answer Challenges
- Ideas for the MT Modification Line
- ➤ Existing Commercial Solutions versus **New Design**
- ▼ Talk to Project Officers
- Better Ways to Facilitate
- ➤ Government Industry Cooperation
- ▼ Teaming

Give Us Your Ideas for Solutions







OUALITY ASSURANCE

SUBCOMMITTEE REPORT

1 FEBRUARY 1999

Briefer: Ronald Scholtes

Date: February 1, 1999

1/4

Tank-automotive & Armaments COMmand

Committed to Excellence



NEW APPROACH



MID-YEAR MEETINGS

TESTING COMMUNITY PERSONNEL JOINED OUR SUBCOMMITTEE

AUGUST 1998 TOPICS



- DLA POLICY FOR ISO 9000
- USING COMMERCIAL TEST STANDARDS
- **ELECTRONIC DD250 PROCESS**
- NATIONAL AUTOMOTIVE CENTER **PROJECTS**

Committed to Excellence

3/4



JANUARY 1999 TOPICS



- ACQUISITION REFORM UPDATE
- CURRENT NATIONAL AUTOMOTIVE CENTER PROJECTS
- ISO 9000 PROGRAM
- CONTRACTOR PERFORMANCE CERTIFICATION PROGRAM
- ELECTRONIC DD250 PROCESS
- TESTING USING COMMERCIAL STANDARDS

Committed to Excellence



POINTS OF CONTACT



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Email - wbotich@amgeneral.com

TARDEC, Engineering Business Group Email - scholter@tacom.army.mil Commercial (810) 574-6153 Mr. Ronald Scholtes





DEFENSE SECURITY COOPERATION AGENCY: THE CHANGING ENVIRONMENT AND FMS RE-ENGINEERING

MR ROBERT KELTZ DEPUTY DIRECTOR, DSCA 1 FEBRUARY 1999

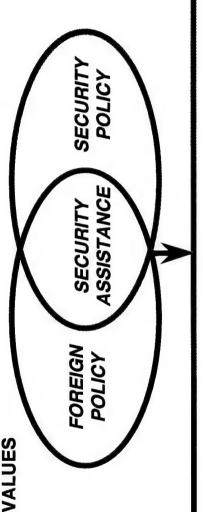


SECURITY COOPERATION: A KEY POLICY TOOL FOR THE 21st CENTURY



- BUILD INSTITUTIONS TO
 KEEP AMERICANS SAFE AND
 THE WORLD PEACEFUL
 - SUSTAIN OUR PROSPERITY AND EXPAND GLOBAL ECONOMY
 - PROMOTE AMERICAN PRINCIPLES & VALUES

- TO ENHANCE OUR SECURITY WITH MILITARY FORCES THAT ARE READY TO FIGHT
 - TO BOLSTER AMERICA'S
 ECONOMIC REVITALIZATION
 - TO PROMOTE DEMOCRACY ABROAD



- · COALITION BUILDING
- FORWARD PRESENCE
 - INTEROPERABILITY
- · REGIONAL STABILITY
- · CRISIS MANAGEMENT
- · THEATER DETERRENCE



MILITARY ASSISTANCE PROGRAM

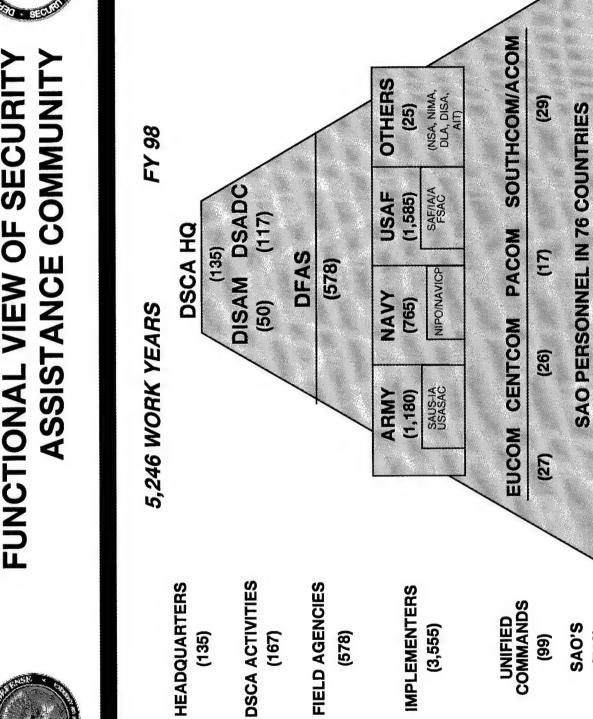


- FMS SALES = \$8.6B & FMS DELIVERIES = \$13.9B IN FY98
- SALES TO 137 COUNTRIES AND INT'L ORGANIZATIONS
- **PIPELINE OF \$70B IN PRIOR YEAR SALES**
- **OVER \$3B IN GRANT ASSISTANCE IN FY97 FY99**
- IMET PROGRAMS OF \$50M WITH 118 COUNTRIES IN FY99
- DSCA OVERSEES 15,000+ FMS CASES WORTH \$222B
- DSCA MANAGES \$370M IN FY99 ADMINISTRATIVE BUDGETS
- SECURITY ASSISTANCE FY98 WORK-YEARS: 5,246
- 712 SAOS IN OVERSEAS SA ORGANIZATIONS



FUNCTIONAL VIEW OF SECURITY



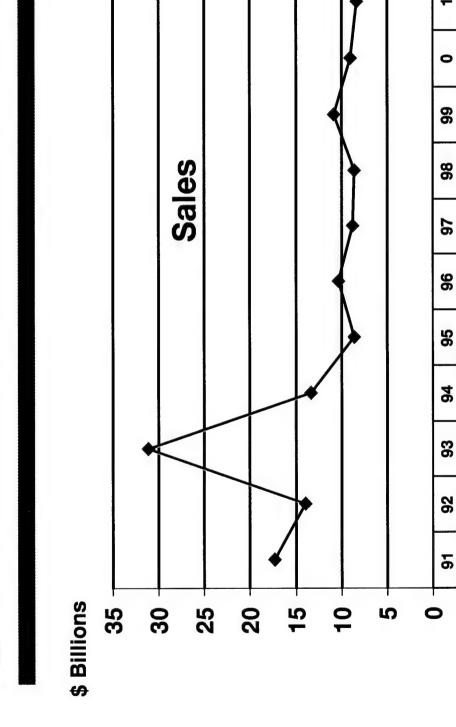


(712)



FOREIGN MILITARY SALES: WORLDWIDE SALES





7.5

8.3

6

10.8

8.6

8.8

10.3

8.6

13.3

31.1

13.9

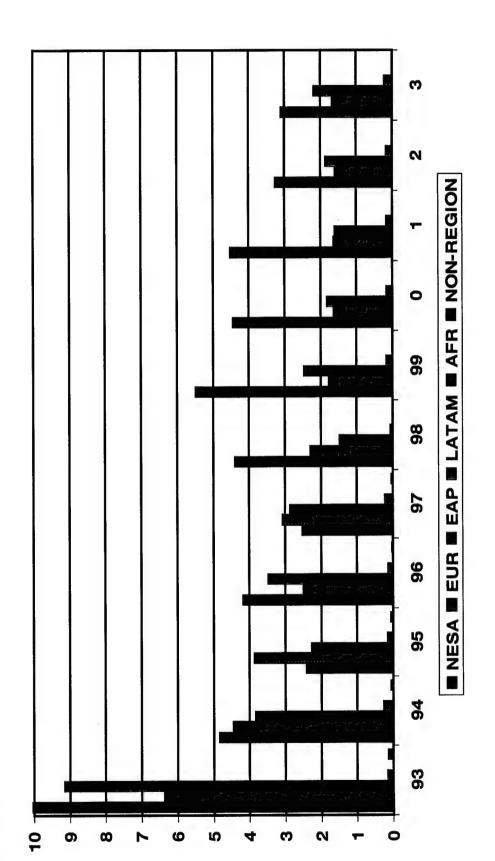
→-Sales 17.3



FOREIGN MILITARY SALES: Regional Breakdown



(in Billions)





U.S. GOVERNMENT TACTICAL WHEEELED VEHICLE SALES



- NOT REALLY ANY NEW SALES PENDING OR ON HORIZON
- ➤ SOME MINOR SUSTAINMENT CASES FOR EXISTING **FLEETS**
- **BULK OF SALES GO ON DIRECT COMMERCIAL BASIS (CUSTOMER PREFERENCE)**
- **VARIABLES AT WORK IN MARKETPLACE THAT WE CAN'T CONTROL**
- ➤ DESIRE OF CUSTOMERS TO GO INDIGENOUS WHENEVER POSSIBLE
- **➤ MANY VIABLE PRODUCERS**



DSCA MAJOR EFFORTS



External

- RE-ENGINEER THE FMS PROCESS AND MEET CUSTOMER NEEDS
- MAINTAIN SECURITY ASSISTANCE TRUST FUND SOLVENCY
- MAINTAIN SOLVENCY OF CUSTOMER TRUST FUNDS
- ENSURE CONTINUED VIABILITY OF AGENCY

IMPLEMENT AGENCY 5
YEAR STRATEGIC PLAN

Internal

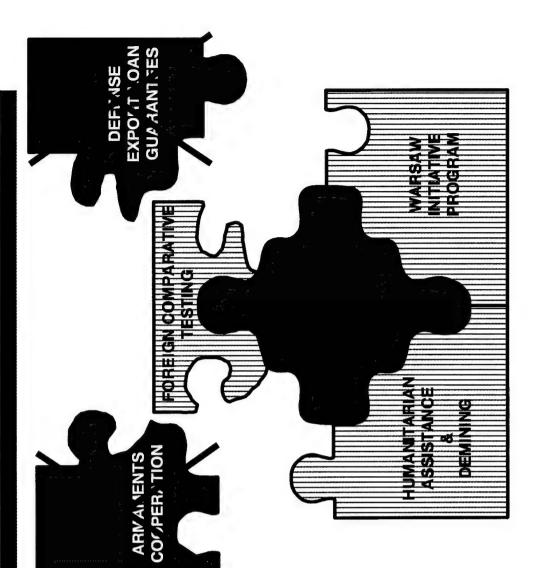
- COMPLETE AGENCY'S
 BUSINESS PERFORMANCE
 PLAN FOR DEFENSE
 MANAGEMENT COUNCIL
- DEVELOP & FIELD DSAMS



FUNCTIONS ACQUIRED UNDER DEFENSE REFORM INITIATIVE



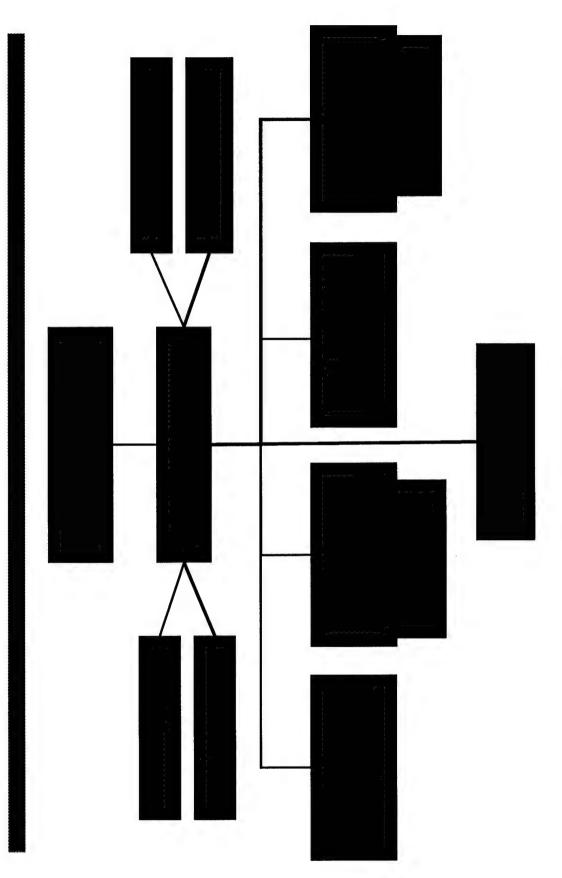
- HA/D PROGRAMS TRANSFERRED TO DSCA -MARCH 1998
- WARSAW INITIATIVE (PFP)
 PROGRAM MANAGEMENT
 FUNCTIONS AUG 98
- FOREIGN COMPARATIVE TEST PROGRAM AUG 98
- INTERNATIONAL ARMAMENTS COOPERATION/DEFENSE EXPORT LOAN GUARANTEE PROGRAM -NOT COMING TO DSCA





COOPERATION AGENCY (DSCA)







AGENCY STRATEGIC PLANNING



- PERFORMANCE AND RESULTS ACT **RESPONDS TO THE GOVERNMENT**
- PERFORMANCE CONTRACTS FOR ALL DEPSECDEF DIRECTION REQUIRES **DEFENSE AGENCIES**
- PERFORMANCE OBJECTIVES FOR DSCA PLAN SETS SPECIFIC, MEASURABLE
- ➤ BASIS FOR PERFORMANCE CONTRACT BETWEEN **DSCA DIRECTOR AND THE DEPSECDEF**
- ➤ WILL BE PART OF THE DSCA ANNUAL PROGRAM OBJECTIVE MEMORANDUM (POM) SUBMISSION

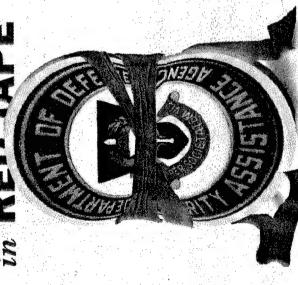


RE-ENGINEERING THE FMS



SYSTEM

W R A P P E D



Customers Abandon FIMS; Cite High Cost, Inflexibility

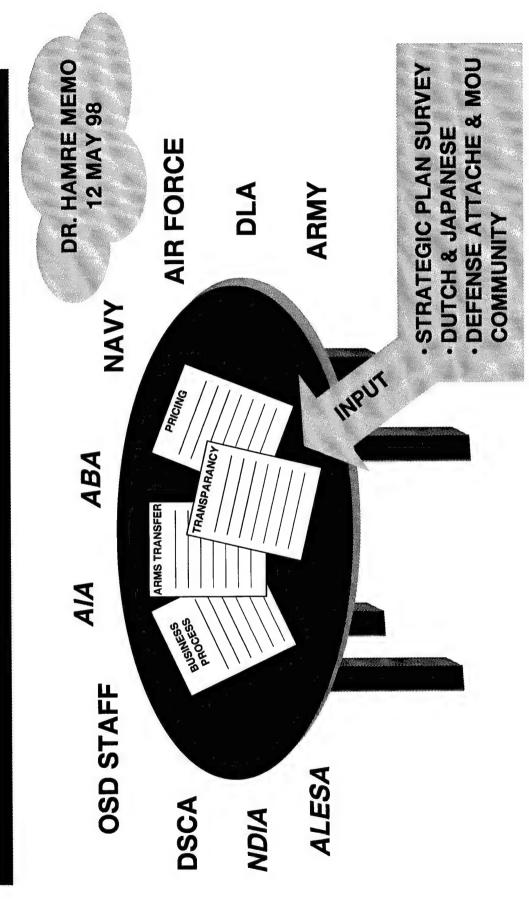
· FMS SYSTEM FACING CHALLENGES

- · INDUSTRY WANTS MORE FROM FMS SYSTEM
- ➤ RAPID POLICY DECISIONS
- ➤ STRONGER ADVOCACY
- ➤ MORE SUPPORT FOR SALES EFFORTS
- MAJOR CUSTOMERS WANT:
- **▶GREATER PARTICIPATION**
- **►SHORTER TIMELINES**
- ➤ FASTER RELEASE APPROVALS
- **▶ FEWER SURCHARGES**



FOR CHANGE DEVELOPING A CONSENSUS







NEEDED ACTIONS



TRANSPARENCY*

(9 & 23 NOV)

- RELATIONSHIP WITH INDUSTRY
 - ·LOA PREPARATION
- **PREPARATION** · CONTRACT

- RELATIONSHIP WITH INDUSTRY POLICY MEMO*
- DSCA POLICY MEMO
- · FOREIGN CONTRACTING POLICY MEMO

PRICING, COST RECOVERY*

(18 NOV & 9 DEC)



· ALTERNATIVES TO

DFAS/DCMC

SURCHARGES

·NTE/FFP LOAS

· ADJUST FMS

- · LEGISLATIVE CHANGE
- ACTIVITY BASED COSTING **ANALYSIS**
- LEGISLATIVE CHANGE
- POSSIBLE OUTSOURCING
- * Presented to DPACT 26 Jan 99



NEEDED ACTIONS



TECH TRANSFER

(30 NOV & 14 DEC)

- **ARMS TRANSFER** POLICY REVIEW GROUP
- · IMPROVE BUREAUCRATIC **PROCESS**
 - · FOREIGN DISCLOSURE

- **ATPRG POLICY MEMO**
 - (18 DEC 98)* POSSIBLE ITAR REVISIONS
- ASSESSMENT OF INFORMATION RELEASE CRITERIA USDP/POLICY ON ACCESS

METRICS/PROCESS RE-ENGINEERING

(18 DEC)



SECURITY COOPERATION

PROCESS

RE-ENGINEER ENTIRE

MEASURES

- METRICS EFFORT BEGUN
 - (OCT 98)
 CONTRACTOR SUPPORT IMPLEMENTED

* Presented to DPACT 26 Jan 99



CURRENT ACTIVITIES



8 JAN

INDUSTRY ON 1ST TWO WHITE FINAL COORDINATION WITH

PAPERS

DPACT COORDINATION 11 JAN

DPACT 26 JAN **MEET WITH MILDEPS TO** 8 FEB **COORDINATE RE-INVENTION**

EFFORTS



COMPLETING REMAINING GROUNDWORK



TWO WHITE PAPERS TO BE FINISHED

- ARMS TRANSFER & TECHNOLOGY/DATA RELEASE
- ➤ DSCA AND DUSD(PS) COOPERATIVELY REWRITE PAPER
- ➤ VET PAPERS THROUGH DoD COMMUNITY AND INDUSTRY
- ➤ TARGET COMPLETION DATE 15 MARCH
- METRICS & PROCESS RE-ENGINEERING
- ➤ PAPER BEING CO-DEVELOPED WITH MILDEPS AND DLA
- ➤ TARGET COMPLETION DATE 29 MARCH



THE FUTURE



- SECURITY COOPERATION REFLECTS ON USG AND DEMONSTRATES COMMITMENT TO SECURITY NEEDS OF OUR FRIENDS AND ALLIES
- SECURITY COOPERATION WILL CONTINUE TO BE AN IMPORTANT TOOL FOR POLICY MAKERS
- **WE CAN EXPECT:**
- **▼ CONTINUED SCRUTINY OF FOREIGN AID REQUESTS**
- ➤ CONTINUED PRESSURE TO REDUCE MANPOWER RESOURCES
- ➤ INCREASED COMPETITIVE MARKET FOR SMALLER **DEFENSE BUDGETS**



AGENCY VISION



FOR LEADERSHIP, EXPERTISE, INNOVATION, AND RESULTS IN TO BE THE PREMIER AGENCY RECOGNIZED AND RESPECTED SECURITY COOPERATION...

- A HIGHLY QUALIFIED TEAM OF MOTIVATED PROFESSIONALS
- VITAL TO SUPPORTING US INTERESTS AND SECURITY RELATIONSHIP
- THE INTERNATIONAL PARTNER OF CHOICE
- ... MASTERING THE CHALLENGES OF A CHANGING GLOBAL ENVIRONMENT.

Decisive

Accessible Committed Supportive





UPDATED USAREUR HAZARDOUS **MATERIEL HANDLING** REQUIREMENTS

HOW DOES IT AFFECT FLEET READINESS?





AGENDA

- BACKGROUND
- ISSUES
- HAZMAT DRIVER'S LICENSING REQUIREMENTS
- HAZMAT UNIT SAFETY OFFICER REQUIREMENT
- HAZMAT TRANSPORTATION WAIVERS
- JOINT VEHICLE INSPECTION
- ANNUAL B3 VEHICLE CERTIFICATION
- CONCLUSIONS





BACKGROUND

- MARCH 1998 SUPPLEMENTAL AGREEMENT TO SOFA **GOES INTO EFFECT**
- AUTHORIZES NATO HOST NATIONS TO ENFORCE COMPLIANCE WITH LOCAL ENVIRONMENTAL AND HAZMAT REGULATIONS AND LAWS BY U.S. FORCES STATIONED IN EUROPE
- U.S. FORCES UNABLE TO IMMEDIATELY COMPLY WITH **EUROPEAN REGULATIONS AND LAWS**
- U.S. FORCES FORCED TO ADOPT "PHASE-IN" COMPLIANCE





ISSUES

- FROM TRANSPORTING HAZMAT OVER EUROPEAN HIGHWAYS WAIVER OF REQUIREMENTS PREVENTING U.S. FORCES
- CONDUCT USAREUR AND GERMAN FEDERAL MINISTRY OF TRANSPORT JOINT VEHICLE INSPECTION
- WAIVER OF REQUIREMENT FOR ANNUAL B3 VEHICLE CERTIFICATION





HAZMAT DRIVER'S LICENSING REQUIREMEN

- MILITARY AND CIVILIAN) OF HAZMAT IN EUROPE ARE REQUIRED FRANSPORT DES MATIERES <u>D</u>ANGEROUSE PAR <u>R</u>OUTE (ADR) • EFFECTIVE 1 JANUARY 1999, ALL U.S. TRANSPORTERS TO BE LICENSED IAW ACCORD EUROPEEN RELATIF AU
- TO MEET THIS REQUIREMENT, USARERUR WILL:
- MAXIMIZE USE OF HAZMAT 11 COURSE, VILSECK, GERMANY
- MAXIMIZE USE OF MACOM DRIVER'S ACADEMIES
- EMPLOY MOBILE TRAINING TEAMS





HAZMAT UNIT SAFETY ADVISORS

- EFFECTIVE 1 JANUARY 2000, ALL U.S. FORCES, DETACHMENT SIZE AND LARGER, ARE REQUIRED TO HAVE AT LEAST ONE **UNIT SAFETY ADVISOR TRAINED AND CERTIFIED IAW ADR**
- PERSONALLY UNIT SAFETY ADVISOR IS RESPONSIBLE AND <u>LIABLE</u> FOR TRANSPORTATION OF HAZMAT
- USAREUR IS DEVELOPING ALTERNATIVE COURSES OF ACTION FOR THE TRAINING AND CERTIFICATION OF UNIT SAFETY **ADVISORS**





JOINT VEHICLE INSPECTION

- SEPTEMBER 1998 USAREUR AND GERMAN FEDERAL MINI OF TRANSPORT CONDUCTED A JOINT VEHICLE INSPECTION
- PRELIMINARY RESULTS:
- MECHANISM TO LIMIT VEHICLE TOP SPEED
- TANKERS REQUIRE SWITCH TO DISCONNECT VEHICLE

BATTERY

- VEHICLES REQUIRED TO HAVE NON-FLAMMABLE TARPS **AND CANVASES**
 - SHIELDING REQUIRED AROUND ALL WIRING
- TANKERS MUST BE DOUBLE WALLED AND SPECIALLY

REINFORCE

VEHICLES REQUIRED TO HAVE ABS





JOINT VEHICLE INSPECTION (CONT'D)

- USAREUR STILL AWAITING OFFICIAL INSPECTION RESULTS
- PRELIMINARY RESULTS FOR FUTURE VEHICLE MODIFICATION USAREUR HAS NOTIFIED TACOM OF INSPECTION AND

AND PROCUREMENT REQUIREMENTS

- FUTURE ACTIONS DEPENDENT UPON GERMAN MINISTRY (TRANSPORT RECOMMENDATIONS
- WILL REQUEST WAIVER OF CURRENT DEFICIENCES; FUTURE PROCUREMENTS MUST MEET ADR STANDARDS





HAZMAT WAIVERS

- DECEMBER 1998 USAREUR SUBMITTED 18 WAIVER REQUESTS TO ALLOW U.S. FORCES TO CONTINUE TRANSPORTATION OF
 - HAZMAT
- SEE WAIVER REQUESTS VARY FROM OPERATIONAL PROCEDI <u>TO VEHICLE OWNER IDENTIFICATION ON THE VEHICLE TO</u> VEHICLE ROUTE DETERMINATION
- ALL WAIVERS INITIALLY APPROVED; AWAITING FINAL CONFIRMATION FROM FEDERAL MINISTRY OF TRANSPOR
- TRANSPORT OF HAZMAT CONTINUES UNTIL 30 JUNE 1999 WHEN FINAL CONFIRMATION MUST BE RECEIVED





ANNUAL B3 VEHICLE CERTIFICATION

- CERTIFICATION OF ALL VEHICLES DESIGNATED TO TRANSPORT ADR REQUIRES ANNUAL MECHANICAL INSPECTION AND HAZMAT
- USAREUR IS REQUESTING WAIVER OF THIS REQUIREMENT
- CERTIFY THESE VEHICLES IN THE EVENT OF WAIVER DEN USAREUR IS DEVELOPING A PROGRAM TO INSPECT AND





CONCLUSIONS

- GOAL IS TO CONTINUE TO WORK ON ADR COMPLIANCE
- SHORT TERM SOLUTION WAIVE THOSE REQUIREMENTS WHICH ARE NOT IMMEDIATELY ATTAINABLE
- LONG TERM SOLUTION MODIFY FLEET TO COMPLY **ADR STANDARDS**









AGENDA

- **MISSION REQUIREMENTS**
- FUNCTIONAL REQUIREMENTS
- **ORGANIZATIONAL STRUCTURES**
- INDUSTRY SUPPORT





MISSION REQUIREMENTS

AIR DEPLOYABLE



TACTICAL WHEELED VEHICLES

SUPERHIGHWAYS

DISTANCES

LONGER

MUDDY FIELDS

MISSION REQUIREMENTS

SUPPLÍER TO SOLDIER CONTAÍNER HANDLÍNG

INTEGRAL LOADING AND UNLOADING

14





FUNCTIONAL REQUIREMENTS

MEETS WORLD WIDE REGULATIONS

INCREASED VELOCITY MODULAR



NCREASED OPTEMPO

200

IN TRANSIT VISIBILITY

CREW PROTECTION

DECREASED SUPPORT COSTS



FLEXIBLE

MATERIEL INVENTORY IN TRANSIT TO NEED

15





ORGANIZATIONAL STRUCTURES



- MODULAR
- VARIETY OF CAPABILITY
 - FLEXIBLE
- EXPRESS SERVICE
- MULTI-CAPABLE DRIVERS
- SIMPLIFIED LOGISTICS







21ST TAACOM



INDUSTRY SUPPORT

- **USE PROVEN TECHNOLOGY**
- CASH IN ON COMMERCIAL DEVELOPMENTS
- LESS FUNDING FOR LOGISTICS
- VEHICLES MUST PASS WORLD WIDE REQUIREMENTS
- **FEWER TRANSPORTATION NODES**
- INCREASED USE OF CONTAINERS
- NEED MORE INTEGRATED AND INDEPENDENT MHE

Defense Logistics Agency

America's Logistics Combat Support Agency

SS SUPPORT FERENCE HOO ONVE CIN CONTRACTOR HEALTEN **CONTRAC**

PENSE SUPPLY CENTER
COLUMBUS
2 FEBRUARY 1999



DLA

- WHO WE ARE
- HOW WE DO BUSINESS
- HOW WE MEASURE HIBALTHI SUCCESS
- CLS INITIATIVES
- SUMMARY

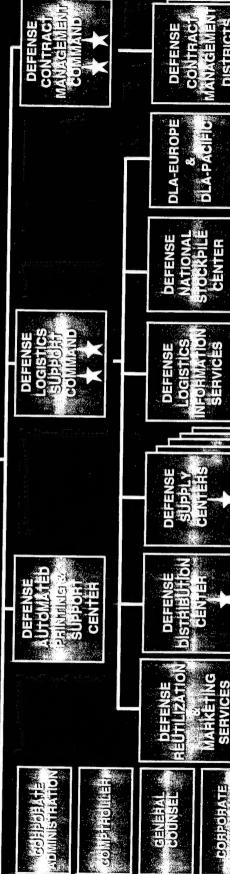


DEFENSE LOGISTICS AGENCY

Where We

SECUEL

CINCS 7-----CJCS/ Joint Staff SENTOR ENLISTED ADVISOR DI.A DIRECTOR DEPUTY DIFFECTOR USD (A&T) Military Services JOINT TOTAL ASSET VISIBILITY JOINT ELECTRONIC



DISTRICTS

SERVICES

NEGRINATION

90315031.TE



DLA

OUR MISSION...

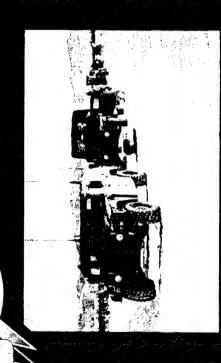
To provide acquisition and focused logistics support to America's Armed Forces in peace and war-around the clock, around the world.

VISION...

To be America's logistics combat support agency... the warfighter's choice for integrated life cycle solutions through teamwork and partnership.

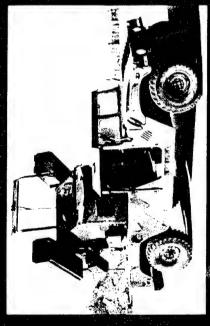






- 1. Consistently provide responsive, best value supplies and services to our customers.
- 2. Serve as a catalyst for the Revolution in Business Affairs and Acquisition Reform.
- 3. Ensure our workforce is enabled to deliver and sustain world class performance.
- 4. Rapidly exploit technology to provide agile, responsive, interoperable solutions.
- 5. Aggressively pursue partnerships with industry and our suppliers.

what our customers require- not what is convenient for us - and does "We must have a logistics system which tailors what we provide to so in dramatically reduced time frames, reliably and consistently."





What Does the DLA Strategic Preparing for the Future Plan Do?

- Right Focus
- On Warfighter Readiness & Capability
- Ties DoD Goals and Direction to the Workplace
- Right Size
- Major Infrastructure Changes
- Right Enablers
- Business Process Change
- Smaller, Multi-skilled Workforce
- Acquisition Reform
- Partnerships with Customers and Industry
- Information Technology
- Linked to POM

Defense Logistics Support Command



1394 Weapon Systems Supported

- \$11.6B Inventory
- \$12B Annual Sales
- \$25M Annual Reutilization
- \$27M Receipts and Issues
 - annually
 All DoD Wholesale Inventories

- Energy Support
- Management

An Integral Part Warfighting Team

	CASS TYPE SUPPORT PROVIDER			Sulbsistence				V Ammo		VII End flems	VII Medical 100%	Meparables 100%	X Nor Peparables 4% 86%		\$606 00 00 00 00 00 00 00 00 00 00 00 00	
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Wholesale

Defense Supply Center
Philadelphia & DISC
LEAD CENTER
TROOP & GEN SUPPLY

Defense Supply
Center
Columbus OH
LEAD CENTER
LAND & SEA

Defense Supply Center Richmond VA LEAD CENTER AVIATION Defense Energy Support Center - Ft. Belvoir VA

Where We Are

Retail

1995

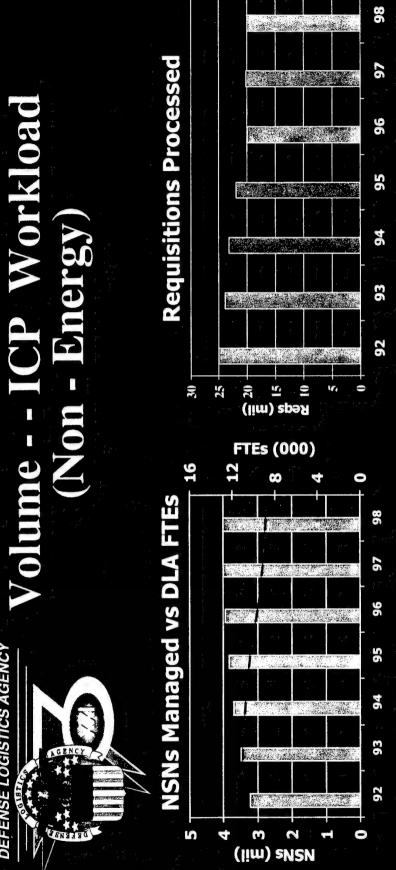
12 Customer Assistance Reps

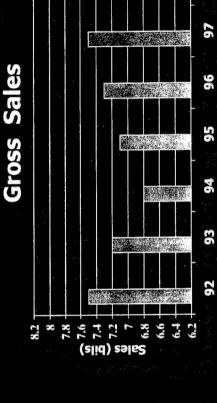




1999
71 Customer Support Reps
CONUS/OCONUS
At Major Activities

DEFENSE LOGISTICS AGENCY

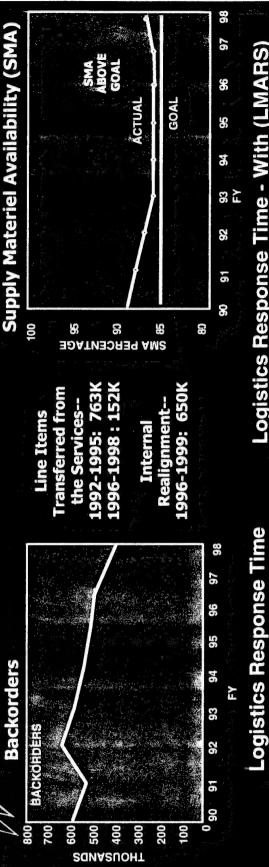


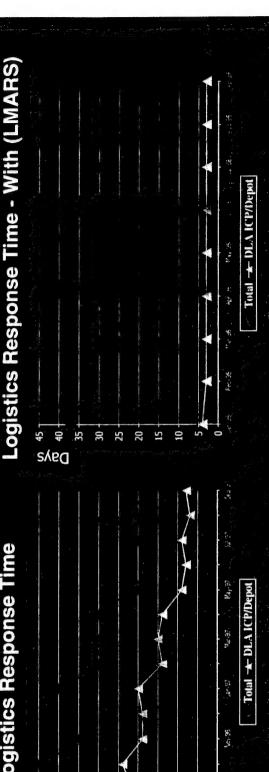


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System Performance





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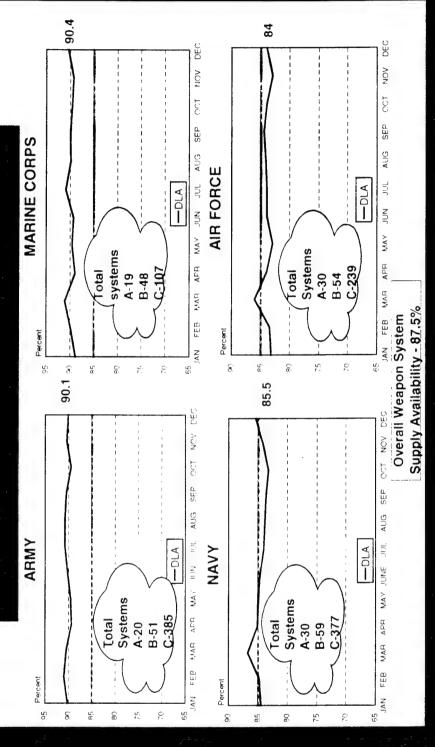
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Sep.95 Sep.95



SUPPLY AVAILABILITY BY SERVICE

DLA GOAL 85%





Weapons Systems Performance Measures

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With emphasis on readiness drivers for any key Weapon System

Below Goal Dec 98

Level A: $\begin{array}{c|cccc}
\hline Army & \overline{USMC} \\
\hline Level A: & 0 & 1 \\
\hline Level B: & 0 & 2 \\
\hline Level C: & 15 & 5 \\
\hline
\end{array}$



Focusing on Weapon System Support

Tiered Inventory Investment

TIER 1 MOST ESSENTIAL 87%

TIER 2 ESSENTIAL 85%

TIER 3 LESS ESSENTIAL 83%

- Business vs Readiness Trade off
- Business: Fast moving, low cost, low risk items
- <u>Readiness</u>: Items critical to weapon systems and military operations
- Optimize support within resource constraints
- Weapon system coding essential



Focusing on Weapons System Support

Lead Center Concept...

- Establishes Centers of Excellence
 DSCC Land and Sea
 DSCR Aviation
- DISC / DSCP Troop Support & General Supply
- the Program Level (Weapon System Support Manager) Provides Single Wpns System Point of Contact at
- Readiness / Supply Support Issues for DLA Supported Works with Service Pgm Mgrs to Resolve Fleet Wide Weapon Systems
- Acts as the Primary Catalyst for Inter Agency Support





Def Supply Ctr Phila

Troop Spt General Supply

Sub surface



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DEFENSE LOGISTICS AGENCY

READINESS AND SUPPLY AVAILABILITY

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 TOTAL NSNS
 7,035

 ECI NSN
 1,802

 AVG MO DMDS
 82, 992

 TOTAL NSNS
 9,347

 ECI NSNS
 2,021

 AVG MO DMDS
 37,003

DEFENSE LOGISTICS AGENCY



READINESS AND SUPPLY AVAILABILITY

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70

FMTV	JAN	FEB	MAR	APR	MAY JUN	NOS	JUL	AUG	SEP	AUG SEP OCT NOV	NOV	DEC
READINESS %	95	97	96 /	66	16	16	95	16	16	16	16	16
S/A	91	86	68 6	06	88	06	92	96	92	92	88	98
LVS	JAN	FEB	MAR	MAR APR	MAY	MAY JUN JUL		AUG	SEP	AUG SEP OCT NOV		DEC
READINESS %	98	86	88 9	68	88	18	88	86	06	06	88	86
S/A	92	93	3 93	66	94	6	94	96	96	76	93	92

TOTAL NSN 7,187
ECI NSN 1,640
AVG MO DMDS 16,067

TOTAL NSNS
ECI NSN
AVG MO DMDS

7,391 1,515 3,280



Contractor Logistic Support DLA Corporate Strategy

- PARTINER with Service Project and Program Managers
- Obtain best value from existing DoD Inventories
- Leverage Wholesale Contracting Resources
- Tailor CLS to customer, system, commodity, region



CONTRACTOR LOGISTICS SUPPORT

POSSIBLE PROS:

- Modernization Through Spares
- Reduced Cycle Times
- Reliability Based Logistics & Trigger Based Item Management
- Single Logistics Face to the Warfighter for the System
- Reduced Government Logistics
 Footprint
- Cost Savings for the Specific Weapon System's Support

POSSIBLE CONS:

- May not effectively use existing Service / DLSC investment in inventory / pipeline
- Degrades nationally leveraged buying power for consumables (as well as common reparables) across systems
- May drive up the total cost of logistics support across DoD
- * Unless infrastructure/
- investment intelligently used
- Multiple Contractors on the Battlefield
 - Poor integration in requesting and receiving support



WHAT DLA OFFERS

- Over 35 Years Experience in Supply Chain Management for Consumable Materiel Support to the Warfighter
- Nationally Leveraged Buying Power Across Weapons Systems / Military Services 3)
- Inventory of Critical Consumable Parts for Weapon Systems
- Surge and Sustainment
- Recognized Government Leader in EC/EDI
- Extensive Warehouse / Distribution Network
- * New: Dedicated Truck Service for Time Definite Delivery and Tailored Logistics Support
- Innovative Methods of Support Using Best Commercial Practices



DLA ELECTRONIC COMMERCE

SCWUMMINI

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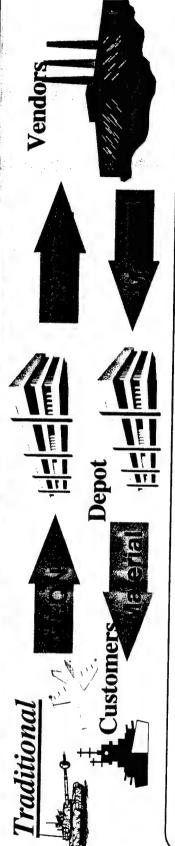
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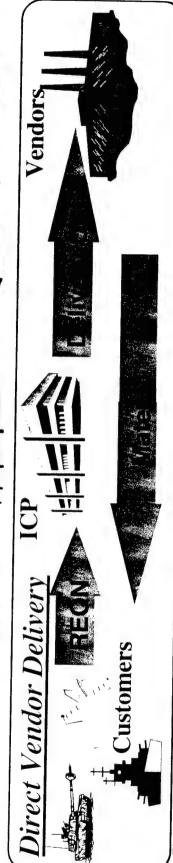
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DEFENSE LOGISTICS AGENCY

Prime Vendor Arrangements Direct Vendor Delivery







DEFENSE LOGISTICS AGENCY



Shift to Commercial Practices ...Prime Vendor/Virtual Prime Vendor

PRIME VENDOR
Pharmaceutical
Medical/Surgical
Mail Order Pharmacy
Subsistence
Clothing & Textile
Wood Products
Marine - Life Saving and Diving
Material Handling
Metals
HAZMAT Systems
Fleet Automotive
VIRTUAL PRIME VENDOR

C-130 Maintenance, Repair & Operations Industrial Prime Vendor (Benchstock)

VPV Uniforms

= Initial Award

EMERGING CORE
COMPETENCY
Value Added Services
delivered with supplies

Manager of Suppliers - NOT Supplies

 \triangle = Future Award

ICP WORKLOAD Contract Actions

	FY95	FY96	FY97	FY9
Prime Vendor	\$551.8M	\$827.8M	\$1.06B	\$1.3
Virtual Prime Vendor	0	0	\$7.8M	\$14.4
Corporate Contracts	\$3.5M	\$28.9M	\$89.3M	\$86.2
Long Term Contracts	\$2.6B	\$2.1B	\$2.3B	\$3.6
Total Obligated	\$3.1B	\$3.0B	\$3.3B	\$6.4

 $\mathbf{\Omega}$

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B



SEMINATIVITY STO DLA

- Prime Vendor
- Virtual Prime Vendor
- **Prime Vendor Overseas**
- Industrial Prime Vendor
- EMALL
- Re-Refined Oil

Reengineering

Leveraging

Private

- MTVR
- Corporate Contracts

Restructuring Capabilities Sector Best Value gniornog



PRIME VENDOR

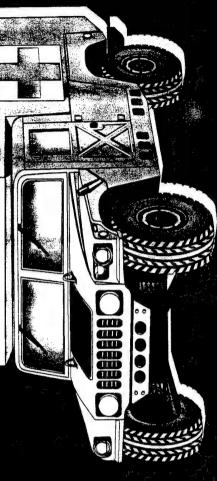
What it is: One Vendor under long term contract. Provides all materiel in a Product Line or Commodity to a Major Customer. Commercial Materiel using existing distribution systems.

Examples: Subsistence and Medical

\$ 1.3 Billion FY98

Volume:







VIRTUAL PRIME VENDOR

inventory mgmt, requisitioning and forecasting for What it is: Regional Focus to provide parts and tech support, specific weapon system support

Caterpillar (D7 Dozer, 621B Scraper) Fleet Automotive Support Initiatives (FASI) (Camp Lejeune) Award Projected 2Q99 (Camp Pendleton) Oshkosh (LVS, P19 Firetruck) Covering AMG (5Tons, HMMWVs) Examples:

2, 180 NSNs Annual Dollar \$14.9M

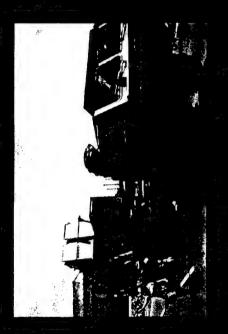


PRIME VENDOR OVERSEAS

commercially available parts to support Overseas customers What it is: One Vendor provides centralized support coverage for

for part number and overseas requests submitted via MILSTRIP Examples: Prime Vendor Overseas supports 800 Contractors Cage Codes using Project Code JZC

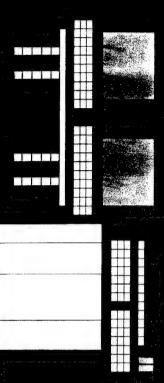
1252 NSNs, Price Listing, Estimated Annual Dollar \$5M Volume:



DEFENSE LOGISTICS AGENCY



INDUSTRIAL PRIMIE VENDOR



Promotes horizontal integration across Weapon Systems. What it is: Aligns Prime Vendor Relationship to Industrial Posture. Exploits emerging technology across Industry.

Nuts, Fasteners, Seals, Couplings, Rivets. Targeted customers include large maintenance operations. Types of Items targeted: O'Rings, Bolts, Screws, Examples:

Currently 43,000 NSNs Annual Demand Value \$22 M





What it is: Customer Sho

Vendor Inventory. Includes robust search engine via Part#, Customer Shopping via Internet to Access Both DoD and NSN, Manufacturer, Vendor Catalog

Examples:

via DoD Standard Requisitioning or IMPAC Credit Card Allows customer shopping and decision point purchasing

Volume:

Currently 2 million items, 9 Vendors



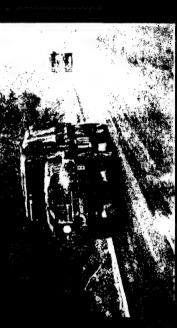
RE-REFINED OIL

What it is: Closed Loop Delivery of new and pick up of old 10W30/15W40 Oil 7 Day Delivery of bulk and packaged products via Direct Vendor Delivery. Current Customers Ft. Carson Ft. Riley, Ft. Hood. Examples:

12 NSNs, 13 Military Bases, 5 Federal Agencies



Medium Tactical Vehicle Replacement



Fleet. Intent to replace with more robust vehicles and lifecycle What it is: Tailored CLS to support USMC Medium Tactical Vehicle logistics support. MTVR is a 5 year logistics support contract designed to decrease order ship time, reduce retail stockage and costs. Examples:

Current Coverage for 5,666 vehicles with increase options



Tactical Wheeled Vehicles **DLA Corporate Contracts** Highlighting

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SUMMARY

One Team - One Focus

Weapon System Focus

Readiness Driver for DoD

Expectations Resources

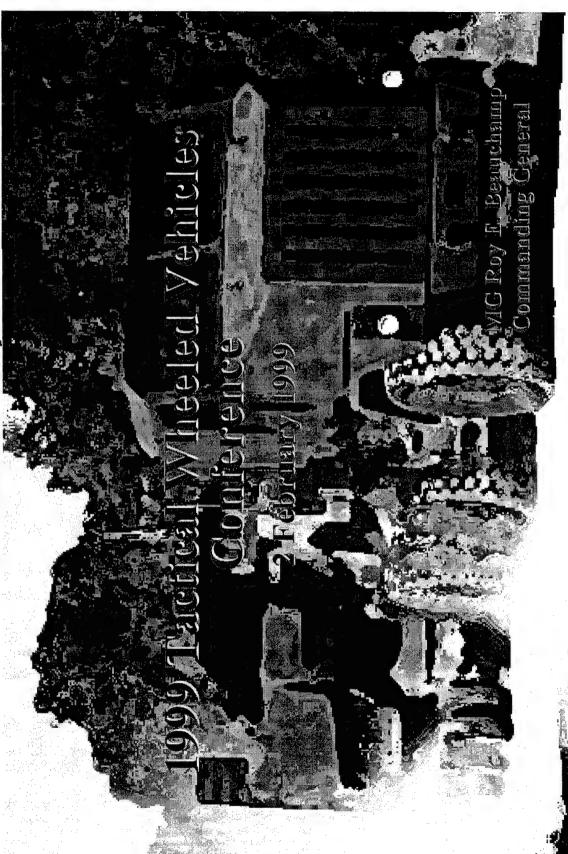
CLS Leader and Partner





ACOM

Mobility and Firepower



Distribution Statement A - Approved for Public Release; Distribution Unlimited

Tank-automotive & Armaments COMmand 249



Briefing Outline









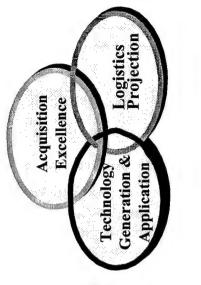




Research and Development

Sustainment

Need Your Help!







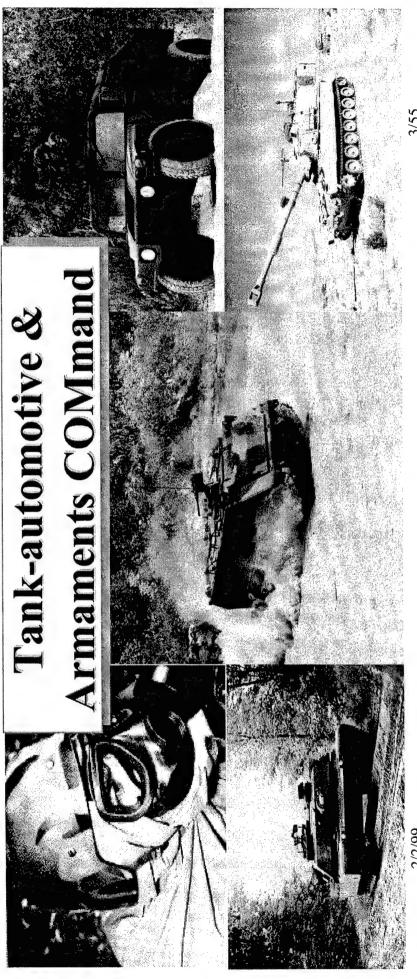
Our Higher Headquarters



Department of Defense

Department of the Army

Army Materiel Command





A Common Vision



Taking America's Army into the 21st Century

The World's Best Army, a full spectrum force- trained and ready for victory. A Total Force of clark society and colored a

- A values-based organization
- An integral part of the Joint Team
- Equipped with the most modern weapons and equipment the Country can provide
 - Able to respond to our Nation's needs
- Changing to meet challenges of today ... tomorrow ... and the 21st Century.

ank-automotive & rmaments

- To make the technology and sustainment systems work for soldiers through the seamless integration of S&T, R&D, Acquisition, Log Sustainment and Soldier Readiness.
- manage from the customer perspective and understands their associate understands the requirement to control costs and To create a business environment at TACOM where every inherent responsibility to do so.

Army Materiel Command Strategic Vision

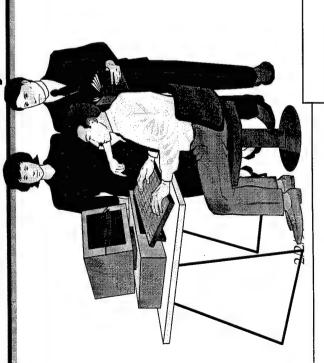
The leader in equipping and sustaining America's Army through superior technology and responsive support assuring worldwide power projection and decisive victory.

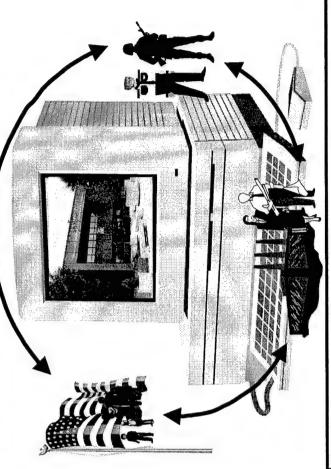


Business Environment In TACOM Vision For The Future



A fully integrated business environment connected by a fully integrated data environment using commercial business processes to integrate business operations within each organization, across major Commands, across Services, across DoD and across Industry.





A corporate management structure for which the organizing principle is multi-functional work teams to institutionalize the concept of integrated process teams; a highly decentralized structure which uses the integrated data environment to link desk top "servers" to facilitate the transformation of data into actionable information to enable more efficient, fully integrated business operations at reduced cost.







Increase Customer Satisfaction

Reduce the Cost of Doing Business

COMMITMENT TO OUR

Work the Partnerships

Customers ...
We Are Your Partners In Readiness

Suppliers .P.cofessional Business
Relationships-- Mutually Beneficial

Associates ...

Challenging, Satisfying Work-A Stake In The Corporation

Stockholders ...







-To Generate Warfighting Capability for the Army

-To Sustain the Warfighting Readiness of the Army



-To manage the Army's Investment in S&T, R&D and Sustainment for the Army -Serve as the Life Cycle Manager and Integrator for Ground Combat and Support Equipment

300 Systems in Acq Pipeline 3,269 Weapon Systems 32,048 NSNs

Tank-automotive & Armaments COMmand

Research, Develop, Field and Support

Mobility and Armalment Systems Total Life Cycle To Support Army Readiness

Combat Vehicles **Tactical Vehicles**

Construction Equipment **Trailers**

Howitzers Materiel Handling Equipment Tactical Bridges

Machine Guns Ammo Chemical Defense Equipment

Petro & Lub Eqpt

Watercraft

Rail

Mortars

Fuel & Water Distribution Eqpt

Sets, Kits & Outfits

Shop Equipment

Rifles

Demolitions & Explosives_{7/55} Aircraft Armaments

Committed to Excellence

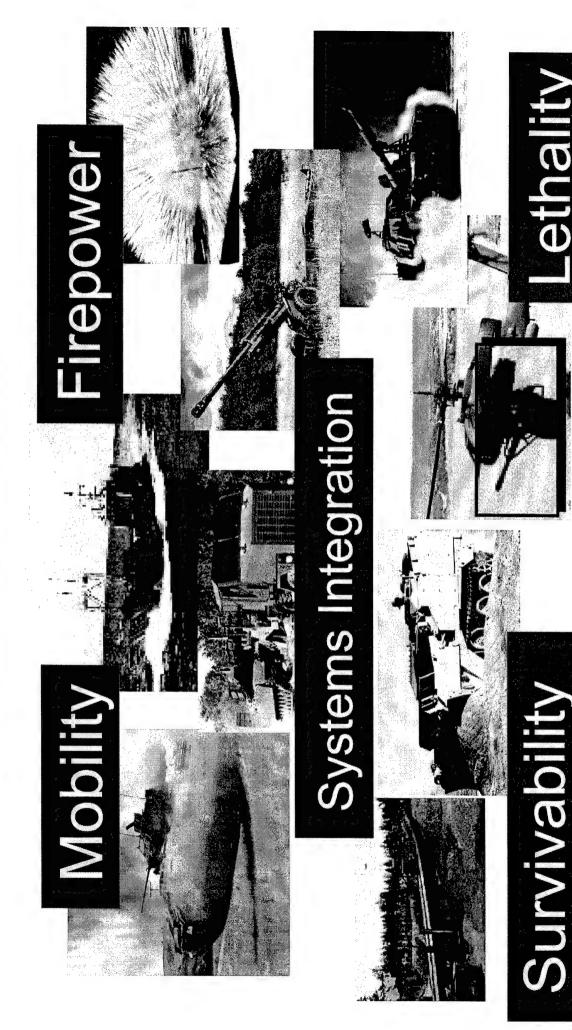
_arge Caliber Guns



Tank-automotive & Armaments COMmand



We Are Your Partners In Readiness





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Surrent



mand

INSPECTOR GENERAL TACOM
COMMANDING G

COMMANDING GENERAL
DEP TO THE COMMANDER
CHIEF OF STAFF

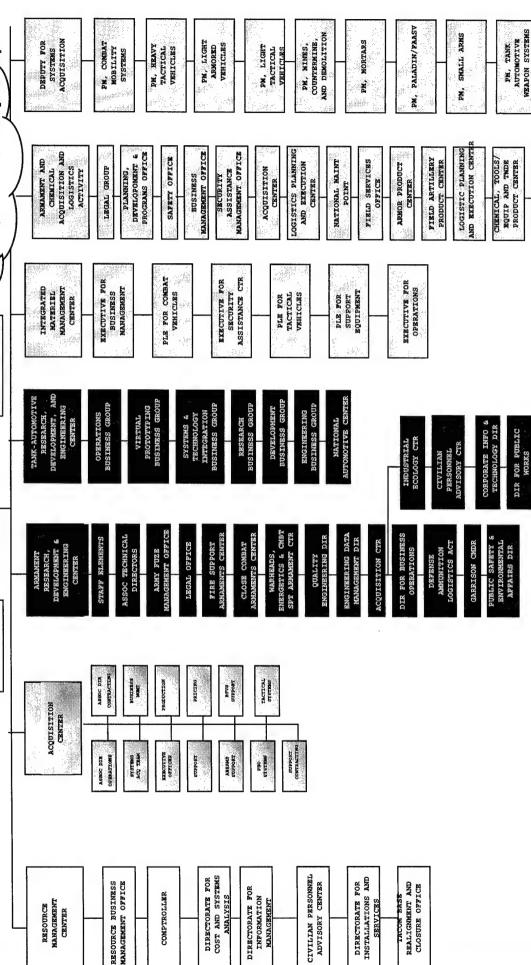
PERSONAL AND SPECIAL STAFF BUSINESS CENTER

LEGAL OFFICE

7,900 Associates

(11,711 w/Depots)

U.S. ARMY GARRISON-SELFRIDGE BUSINESS CENTER



2/2/99

U.S. ARMY PETROLEUM CTR

9/5

AIRCRAFT
ARMAMENT,
SMALL ARMS
PRODUCT CENTER



Surrent Corporate Process



Today

Science & Technology

Complex Business Process

Research & Development

Acquisition

Sustainment Mgt.

Readiness Management

TARDEC

ARDEC

ACALA

DSA

Life Cycle Engineering Management

Human Resources

ACQ CTR

RMC

Facilities & Infrastructure

Information & Business Management

2/2/99

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Concept of the Rut



(9,490 w/ Depots) 5,994 Associates RRAD ANAD

> STAFF DEPUTY FOR CORPORATE MANAGEMENT

Programs Command

Business Ops

Director of

Infrastructure

Director of Ops Director of Corporate Contracting

RESEARCH DEVELOPMENT & CG Dep to the Cdr **BNGINBERING** DEPUTY FOR CofS

DEPUTY FOR LIFE CYCLE MGT

圣 **SYSTEMS ACQ** PM SMALL ARMS ME ZE MCD 딤 PM PALADIN TAWS BUSINESS OFFICE Armament Logistics Integration Office Artillery CBU CBU SKO CBU COMODITY BUS ombat CBL Combat CBL Equip CBU Support **Tactical** Light Heavy CBU Developmen Research Engineering AUTO RDE DIR TANK NAC (DUAL HATTED) **CDR PICATIINNY** Business Opns Office DIR ARMAMENTS RDE **Close Combal** Warheads, Energetics & Combat Support Support DALA Fire Corporate Information Ofc Security Assistance Readiness Director of Director of

STI

₽¥ A

*ACALA Site Mgr.



Integrated Corporate Process



Tomorrow

Science & Technology

Research & Development

John Manual Manu

Acquisition

Sustainment Mgt.

Readiness Management

Deputy for

RDE

Life Cycle Engineering Management

Human Resources

Deputy for

Corporate

Mgmt

Facilities & Infrastructure

Information & Business Management

56/6/6

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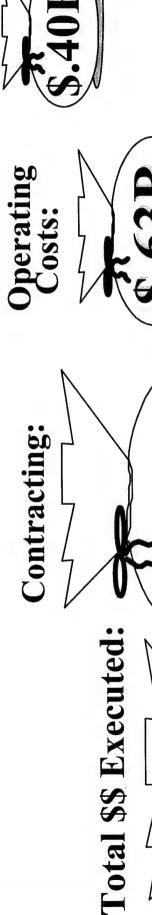
260



Projected FY99 Resources



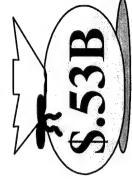
Credits & Expenses-Other Agencies:





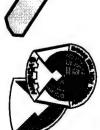


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2/2/99

Committed to Excellence



What TACOM Buys ARDEC



WARREN

ACALA

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MEAPONS & ARMAMENT SYS -WEAPONS & ARMAMENT SYS -FIRE CCNTROL SYSTEMS -FUZES -WARHEAD MISSILE-ROCKET MOTORS -TRAINING ITEMS -LOG AND GENERAL SUPPORT -POLLUTION -PREVENTION -POLLUTION -PREVENTION -POLLUTION -POLLUTION -PREVENTION -POLLUTION -PREVENTION -POLLUTION -PREVENTION -POLLUTION -PREVENTION -PREV
--

\$860 Million

Support Equipment

Aircraft Armaments

Machine Guns

Chemical Defense

Support Vehicles

Combat Vehicles

Munitions

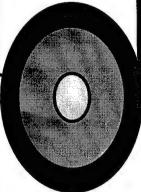
Weapons

\$3.1 Billion Est. Oblig.

Est. Oblig.

\$486 Million





TACOM FY98 Ohlie

committed to Excellence

2/2/99



Major Subcontractors In 24 States Weapon System Prime And



Over 2,050 Contractors
Support Us... OSHKOS

OSHKOSH* ST TWIN DISÇ CU

ALLIANT TECH

AM GENERAL*
ALLISON TRANSMISSION
STEWART WARNER
CUMMINS ENGINE

GENERAL DYNAMICS LAND SYSTEMS HQ (GDLS) * DETROIT DIESEL GIBRALTOR REMINGTON

EATON RQCKWELL

SPLIT BALL BEARING

SACO DEFENSE

TEXTRON DEFENSE

COLTS

- GDLS* UDLP* EAST PENN CHAMBERL/

CHAMBERLAIN MINE SAFETY BULOVA UNITED DEFENSE, LP (UDLP) HQ*

UDLP* GMMVO GOODYEAR

GOODYEAR FNMI DANA SPICER

TEXTRONCATERPILLAR

STEWART STEVENSON* TEXAS INSTRUMENT

Mc DONNELL DOUGLAS

ALLIEDSIGNAL

HUGHES AIRCRAFT

UDLP*

HONEYWELL AEROJET

DEPT of ENERGY

FREIGHTLINER-

DONALDSON

GM CANADA

GILLMAN

TITAN WHEEL ÙDLP* MARTIN MARIETTA ...located throughout the United States!

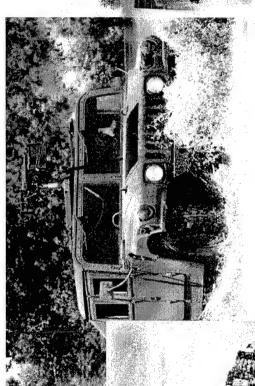
SYSTEMS & ELECTRONICS INC

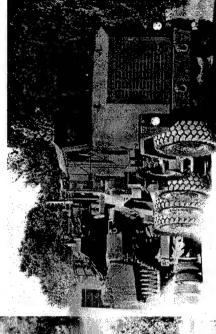
SEILER

ELECTRO SPACE

* Prime Contractors
No Contractors located in Alaska and Hawaii
As of Mar 1998/2/99

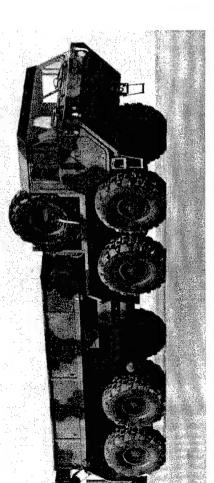


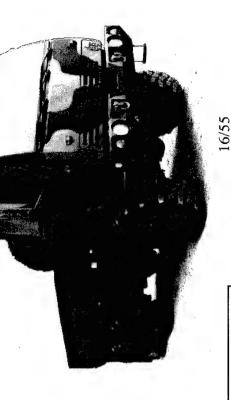




TACOM Tactical Wheeled Vehicles







Committed to Excellence

264



Tactical Wheeled Vehicle Fleet



LIGHT TRUCKS/TRAILERS

DENSITY TRUCKS: 123,996

HISTORICAL OR%: 94%

CURRENT OR%: 92%

AGE RANGE: NEW - 16 YRS
AVG AGE: 9 YRS

DENSITY TRAILERS: 21,035

HISTORICAL OR%: 97% CURRENT OR%: 99%

AVG AGE: 20.8 YRS

MED. TRUCKS/TRAILERS

DENSITY TRUCKS: 96,210 HISTORICAL OR%: 91% CURRENT OR%: 92%

AGE RANGE NEW - 27 YRS AVG AGE: 18.7 YRS

DENSITY TRAILERS: 64,113 HISTORICAL OR%: 96%

CURRENT OR%: 94%

AVG AGE: 8 - 31 YRS

ONLY 9500 TRAILERS ARE REPORTABLE.

HEAVY TRUCKS/TRAILERS

DENSITY TRUCKS: 26,440

HISTORICAL OR%: 92%

CURRENT OR%: 90%

AGE RANGE: NEW - 20 YRS

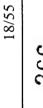
AVG AGE: 10.8 YRS DENSITY TRAILERS: 25,281

HISTORICAL OR%: 97%

CURRENT OR%: 97%
AVG AGE: 15.2 YRS

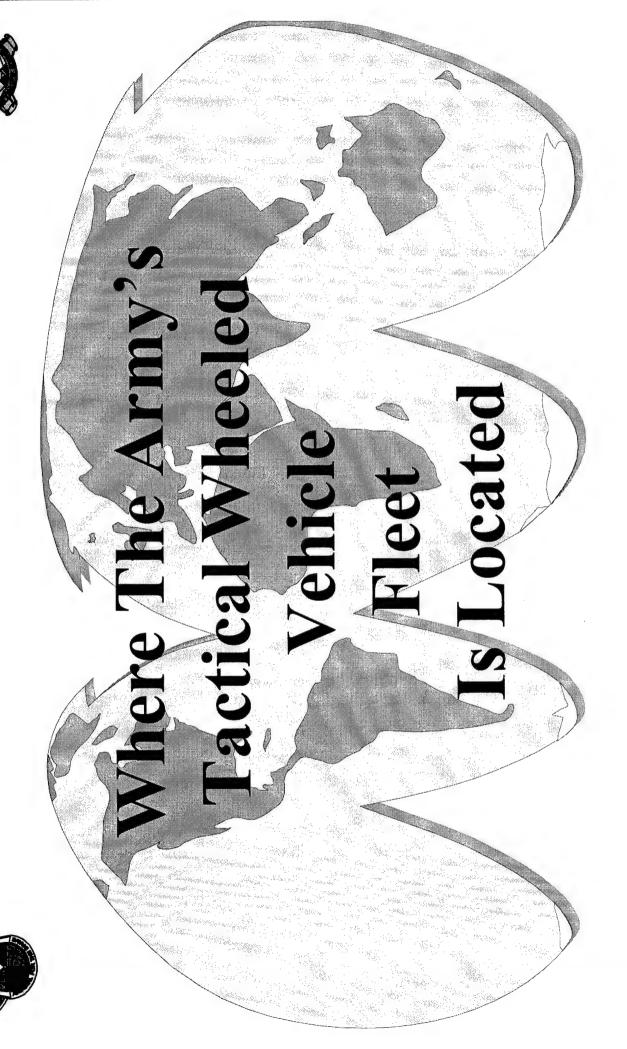
DENSITY FLATRACKS: 10,468 NOT OR% REPORTABLE.

U.S. ARMY





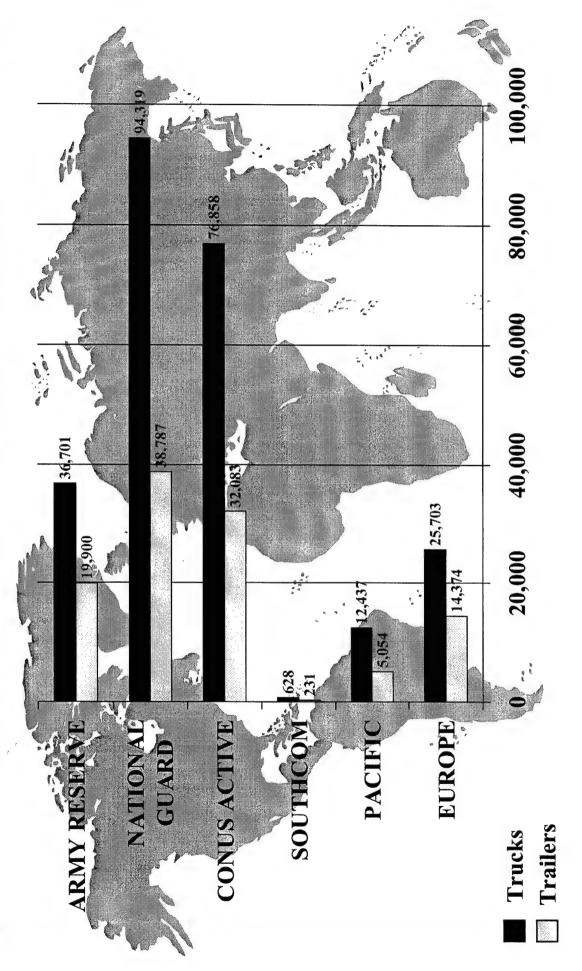






Tactical Wheeled Vehicle and Trailer Fleet 110,429 Trailers 246,646 Trucks



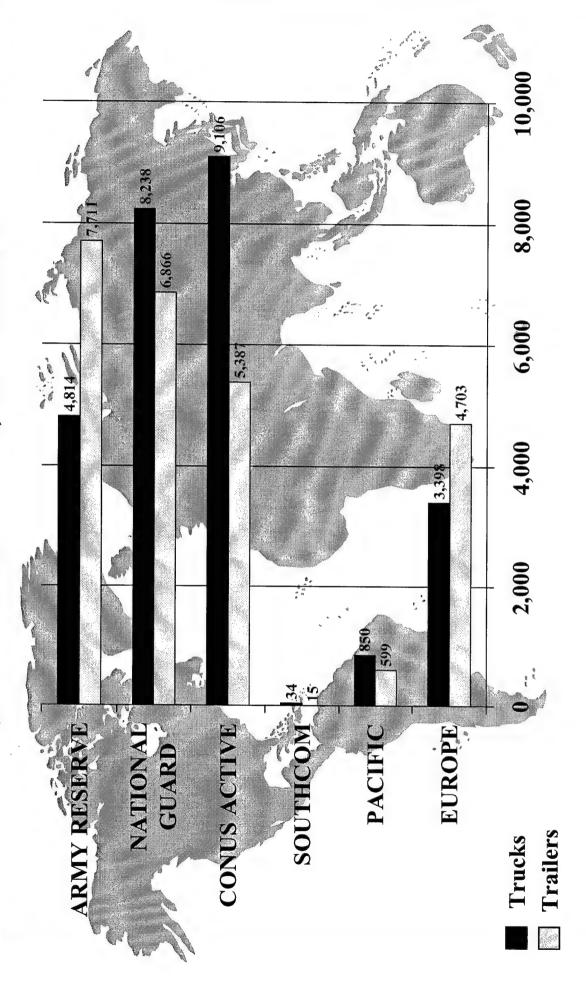


2/2/99



Heavy Tactical Wheeled Vehicle Fleet 25,281 Trailers 26,440 Trucks



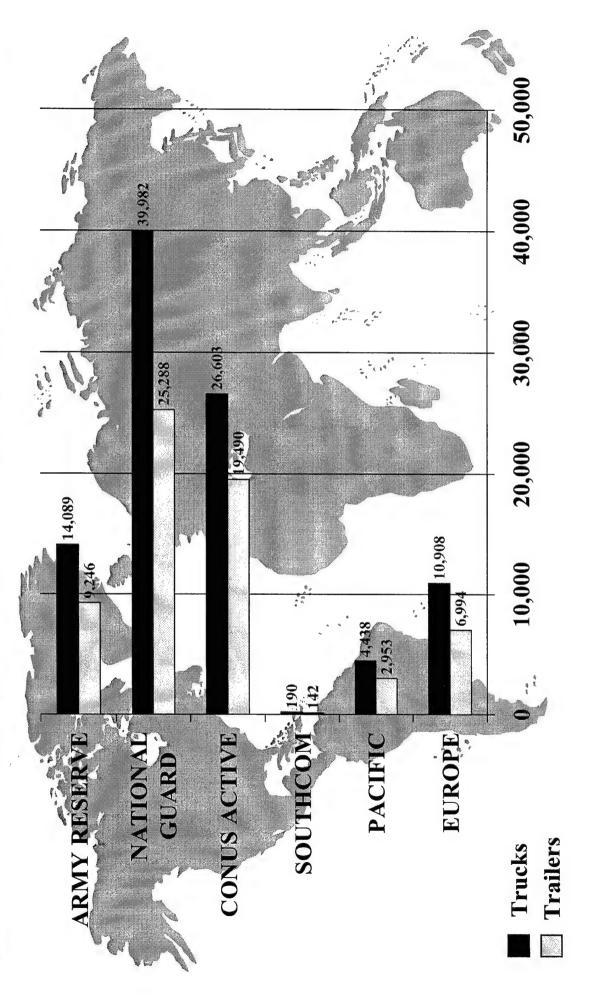


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Medium Tactical Wheeled Vehicle Fleet 64,113 Trailers **96,210 Trucks**





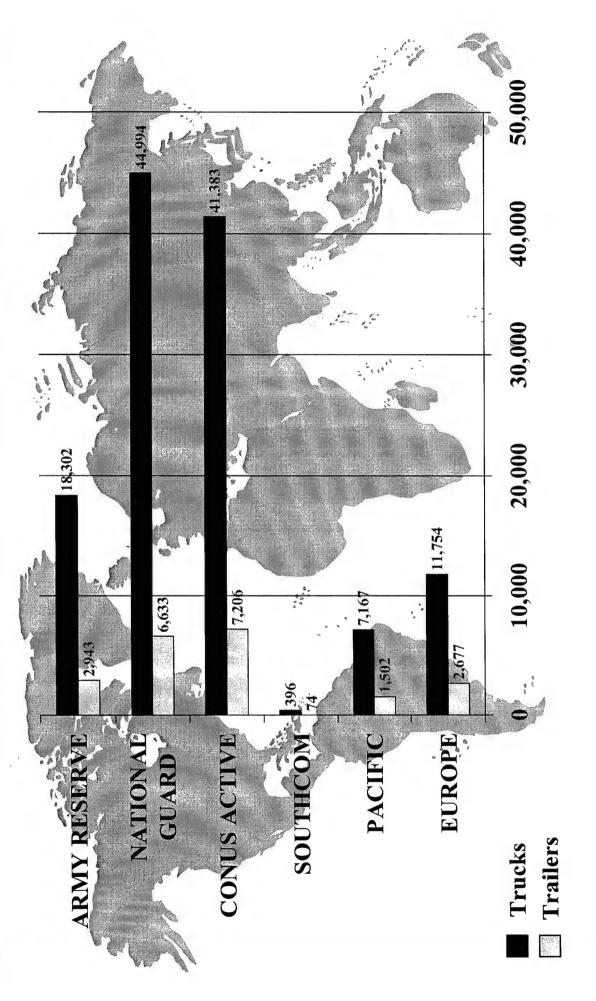
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Light Tactical Wheeled Vehicle Fleet 21,035 Trailers 123,996 Trucks





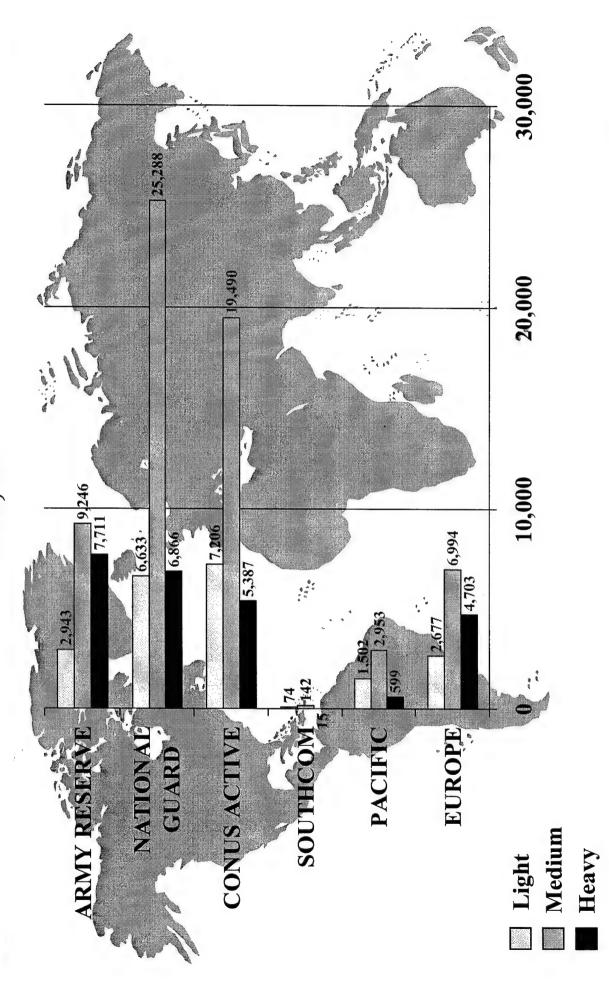
2/2/99

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Trailers 110,429





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2/2/99

271

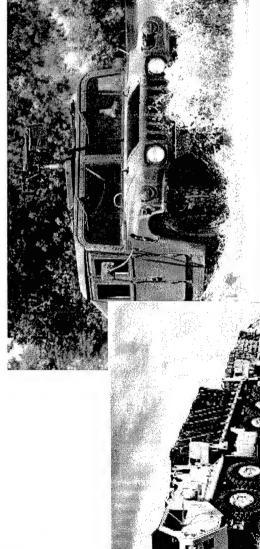
Operation and Support Cost Tactical Wheeled Vehicles

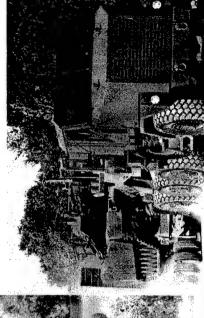


- Fleet cost \$1.7 billion to operate and support in FY98
- Operation and Support Cost Drivers:
- · Labor/ Mechanic
- Parts (Engines, Tires, Batteries, etc.)
- Petroleum, Oil and Lubricants

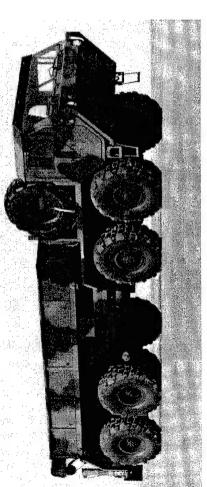
6/6/6







Tactical Wheeled Vehicle Procurement



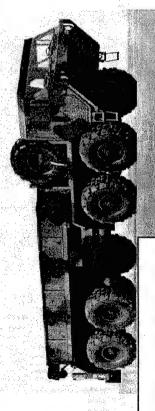


2/2/99



Building to the 21st Century Maintaining Capability





Initial Buy

"New Buys" w/Modifications.

Rebuild/

Remanufacture

Remanufacture Rebuild Jpgrade

through Spares Modernize

Wheeled Vehicle Future Tactical



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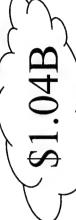


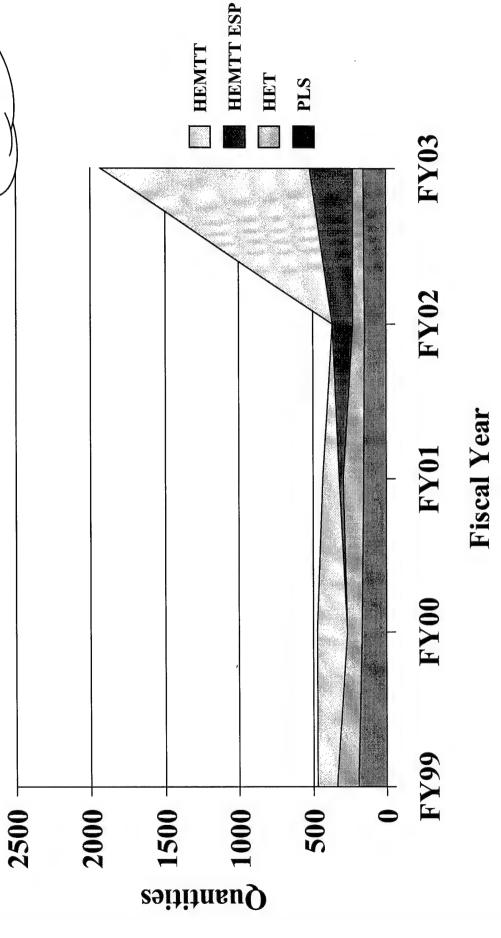
Tactical Wheeled Vehicle Projected Fleel Procurements



Heavy Tactical Wheeled Vehicles Production/ESP





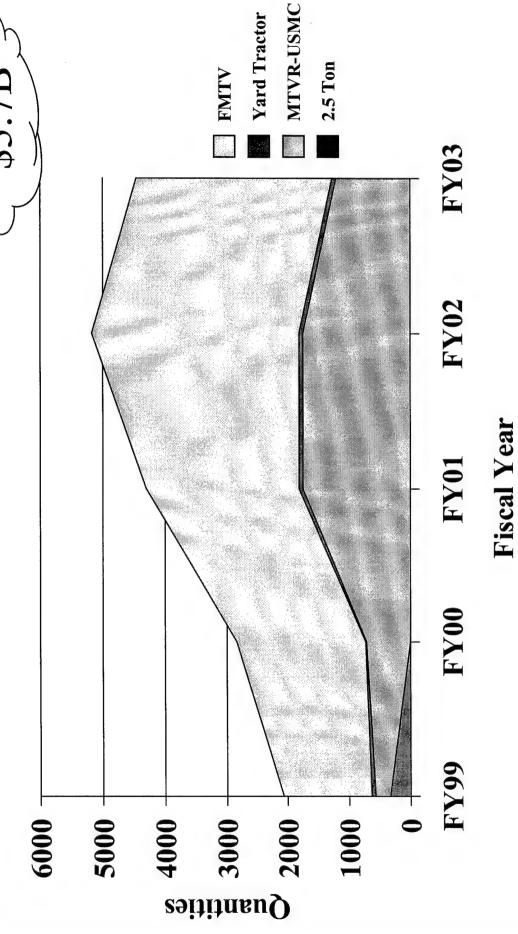




Medium Tactical Wheeled Vehicles Production/ESP





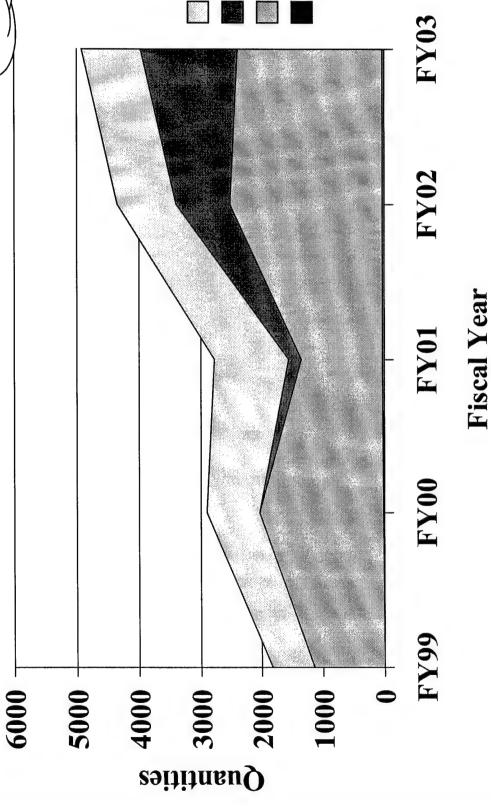


2/2/99

Light Tactical Wheeled Vehicles Production/ESP







HMMWV ESP

HMMWV

HMMWV USMC

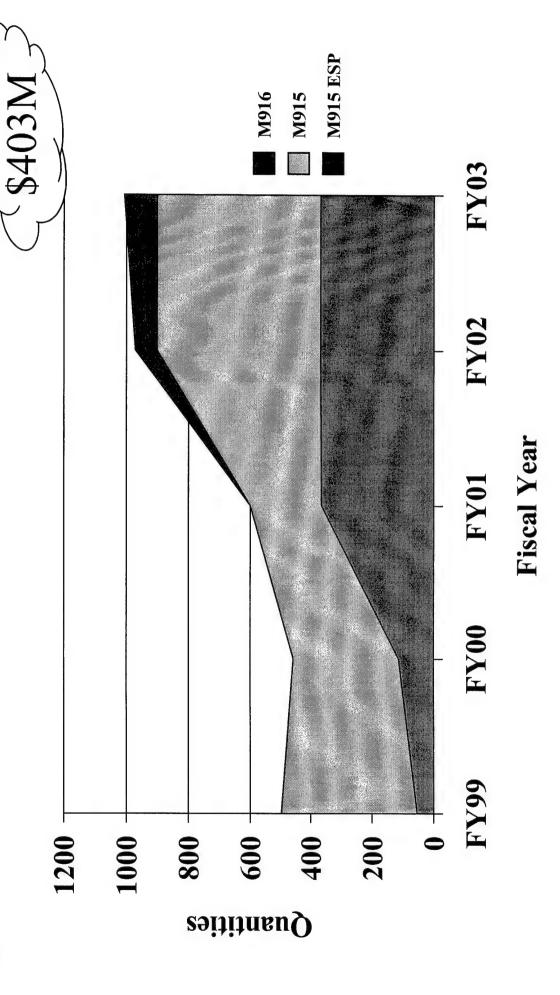
Armored Security Vehicle

2/2/99

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Line Haul Trucks Production/ESP

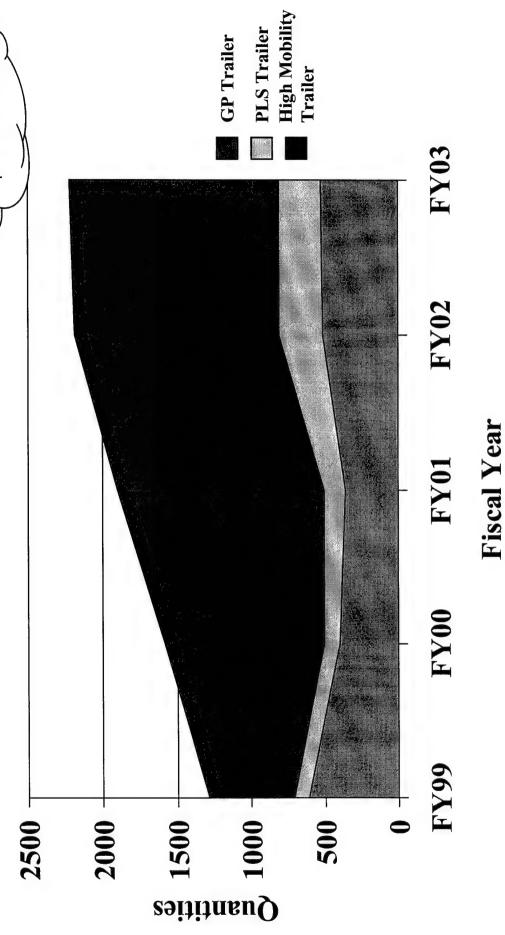






Trailers Production/ESP





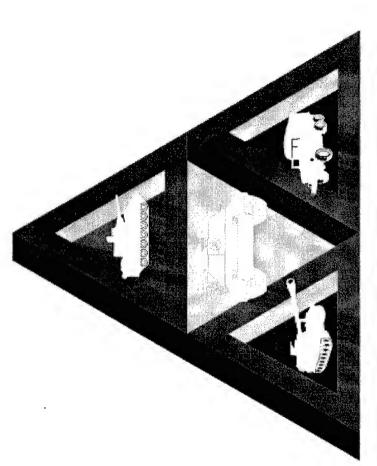
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TACOM &



Tactical Wheeled Vehicles



TARDEC

Research, Development & Engineering

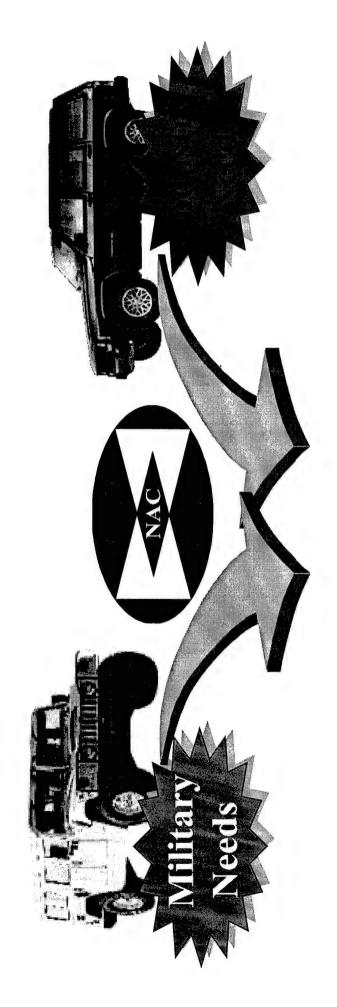
2/2/99

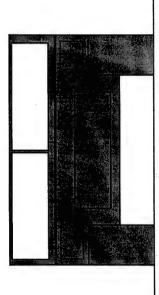
Committed to Excellence



Commercially Based Tactical Truck (COMBATT)







Next Generation Light Tactical Truck

2/2/99

Committed to Excellence



What COMBATT is



- automotive technologies and military NEEDS for the NextGen LTV and - A DEMONSTRATION of the ability to merge commercial HMMWV technology insertion.
- Dual Use Application Program Resulting from Broad Agency Announcement.
- Participation by OSD, TACOM and:

Company	<u>Plat</u>	Platform
Chrysler	2000	Ram
Ford	1998	F350
AMG	1998	HMM

- Managed jointly by NAC and ERIM International.



Propulsion System Requirements 21st Century Truck



Needs/Requisites

- Increased PowerDensity
- Improved Durability
 - Improved Fuel

Efficiency

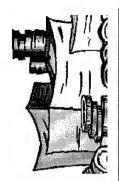
- Legislative
- Compliance
- Commercially Based

Technological Solutions

- Advanced Materials
- Smart Sensors
- Digital Controls/
- Architecture
 Functional Integration
- Hybrid Approach
- Fuel Cells
- Alternative Fuels







Operation and Support Cost Reduction is.

cost of owning, maintaining, or sustaining the system Anything and everything that lowers the recurring



Value

Engr

Mods

PIPS RM&S SMA-

Tech

Base OSCR



TACOM's SMA OSCR PROJECT SUMMARY



Successful Projects:

M915A4 Engine & Suspension Assy Redesign HMMWV Soft Top Doors Galvanization of M939 Series Hood Calcium Maintenance Free Battery M295 Equip Decontamination Kit Drain Plug Kit Replacement BFV Replace Tritium Lamps w/LEDs Recoil Exerciser 155m Howitzer Ceramic Material Plasma Spray Improved Moldboard Ext BCS AGT 1500 Eng Blade Repair Smart Battery and Charger Fiber Optic Gyro, M2

AH64A Improved CRT Cable Strain Relief Alt. Source for Variable Speed Fan, M113 M203A1 Grenade Launcher Handguard AH-64A Helmet Cable Improvement Gunfire Simulator Circuit Card Alternate Power Sys for SUSV M119A1 Spare Parts Redesign M10 Charger Simplification One-Piece Periscope (M17) Improved Track Lock BCS AH64A CRT Wire Splice ROWPU Improvements M109/M992 Fuel Cells

26 Initiatives Funded with \$6.6M Investment (FY96-99)

Projected Field Savings for POM (FY98-03) \$34.5M



Standardization Reform Effort Blueprint For Change:



Today	1,075	157	127	1dards 24	Inactivated 1,832 documents
Yesterday	5,147	\ .	ł	ernment Star	Inactivated
\ c+i.to	Specifications and Standards	Performance Specifications	Commercial Item Descriptions	Highlights: New Non-Government Standards 24	Cancelled 1,057 documents

2/2/99



288





Tactical Wheeled Vehicle Sustainmen TACOM

2/2/99

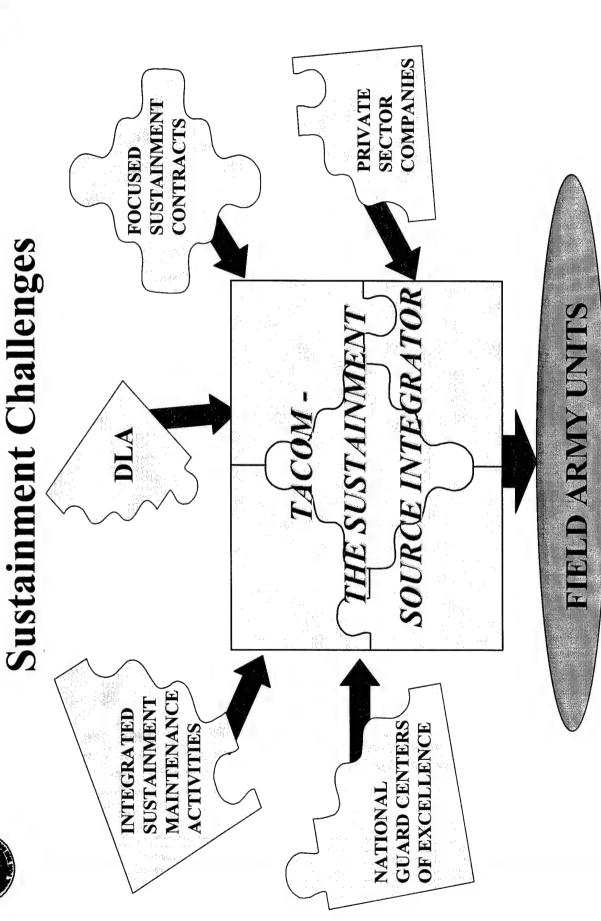
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ובווכב



Tactical Wheeled Vehicle





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Tactical Wheeled Vehicle Sustainment Challenges



WHAT WE'RE DOING:

INTEGRATED, MULTI-FUNCTIONAL COMMODITY BUSINESS UNITS (CBU) MANAGE FROM THE CUSTOMER'S PERSPECTIVE - READINESS CELL SUSTAINMENT SOURCE INTEGRATOR - FOCUSED SUSTAINMENT REDUCE ADMINISTRATIVE AND PRODUCTION LEAD TIMES INCREASE LONG TERM CONTRACTS WITH OUR VENDORS REDUCE COSTS/REDUCE SURCHARGE **BUY "RESPONSE" NOT INVENTORY** REDUCE BACK ORDER AGE REDUCE INVENTORY

2/2/99

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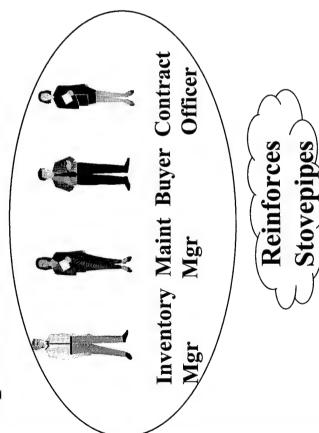


Multi-Functional Team Development Commodity Business Unit (CBU)



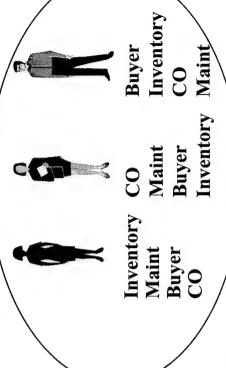
BEFORE

Multi-Functional Teams made up of Specialized Associates



AFTER

Multi-Functional Teams made up of Multi-Functional Associates



Encourages Process Re-Engineering

Development to Multi-Functionalism: Osmosis is not good

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enough.



NATIONAL MAINTENANCE FOCUS



CURRENT SITUATION IS ...

An Army Sustainment Stampede...

PEO INITIATIVES.. 0 O AMC MAJOR SUBORDINATE

COMMAND ACTIONS AND INITIATIVES... FIELD ARMY INITIATIVES .. 0

independent repair programs; post, camp, station individual contracts ISM and SRA proliferation; for support

PALADIN BUSINESS CASE STUDY;

M142 CLS;

e. g.,

five-level Traditional maintenance operations

Legacy system support and sustainment

Support planning and Integrated Logistics execution "CURRENT NEED IS FOR A SUSTAINMENT SOURCE INTEGRATOR ..."

2/2/99



NATIONAL MAINTENANCE FOCUS



WHAT IS FOCUSED **SUSTAINMENT?**

EXPERTISE BY SELECTING "BEST OF LEVERAGE TACOM CONTRACTING

BREED" FROM OVER 40 STOVEPIPES

Multiple awards; multiple contractors Work assignment protocols to select "best" source for each deliverable

IDIQ CONTRACT INSTRUMENT

- **EQUIPMENT EVALUATION**
- DIAGNOSTICS
- **TECHNICAL ASSISTANCE**
- WRENCH TURNING
- **TRAINING**
- PARTS SOURCING
- **MATERIEL FIELDING**
- **LOGISTICS DATABASE UPDATES:**
- PROVISIONING DATA
- TECHNICAL MANUALS
- Buy only hours needed. EQUIPMENT (EIR/ECP) NOW (S)

"TACOM - SUSTAINMENT SOURCE INTEGRATOR"

2/2/99

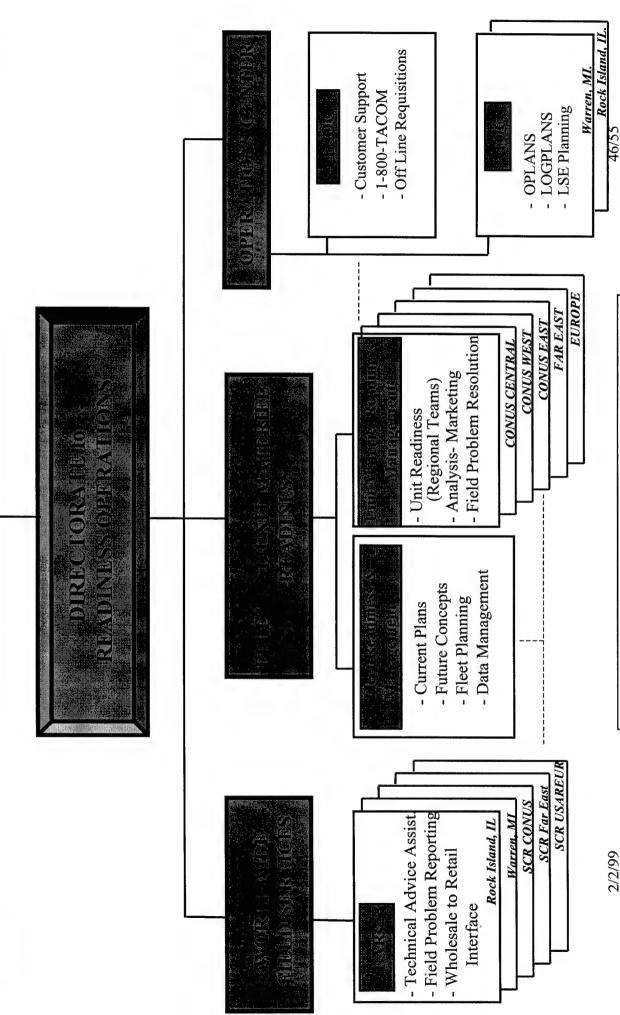
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293



CORPORATE MGMT DCG for







UNIT MATERIEL READINESS TEAMS

REGIONAL ALIGNMENT





CONUS WEST

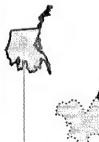
CONUS CENTRAL 5th USA

1st & 3rd USA CONUS EAST

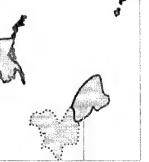
7th USA EUROPE

MCUs

- Inf Div
- Separate Inf Bde Inf Div 25
- Non-Divisional Units
- SUPCOM Aviation 19







- Bde / 25 Inf Div Arm Cav Rgmt
- Bde / 2 Inf Div
- Special Forces Grp

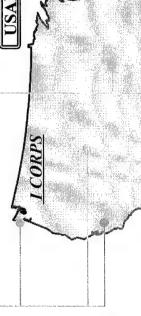
Non-Divisional Units

National Tng Center





Armored Cav Rgmt



Non-Divisional Units 69 Air Defense Arty Special Forces Grp

Ranger Rgmt

160

11/31/35/108 ADA

Corp Arty

Tng Ctr

Arm Div

Air Assault Div

101

Special Forces Grp

Bde / 1 Arm Div

Inf Div

Cavalry Div

MCUs

Inf Div Inf Div

Airborne Div

3/5/7

Non-Divisional Units Bde / 1 Inf Div

Inf Div

Arm Cav Rgmt

MCUs

MCUs

21 TAACOM SETAF Spec Ops Avia Rgmt

Non-Divisional Units

Task Force 4-64 Joint Forge Engineering Bde



Aviation Bde

COSCOM

20

Clayton PANAMA

COSCOM

XVIII CORPS

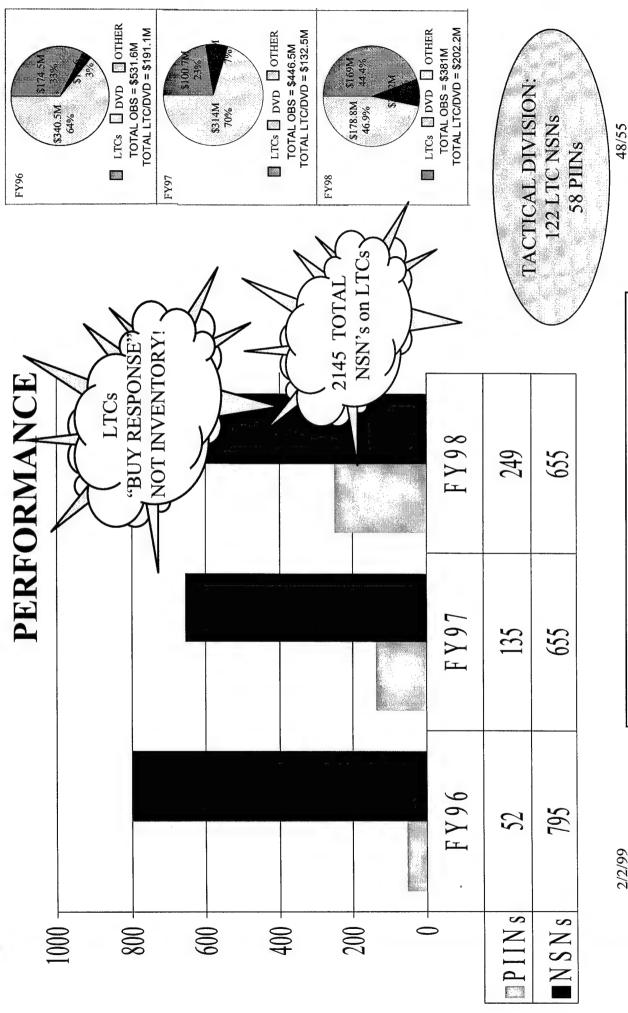
47/55

III CORPS



TACOM ALT/PLT REDUCTION PROGRAM LONG TERM CONTRACT



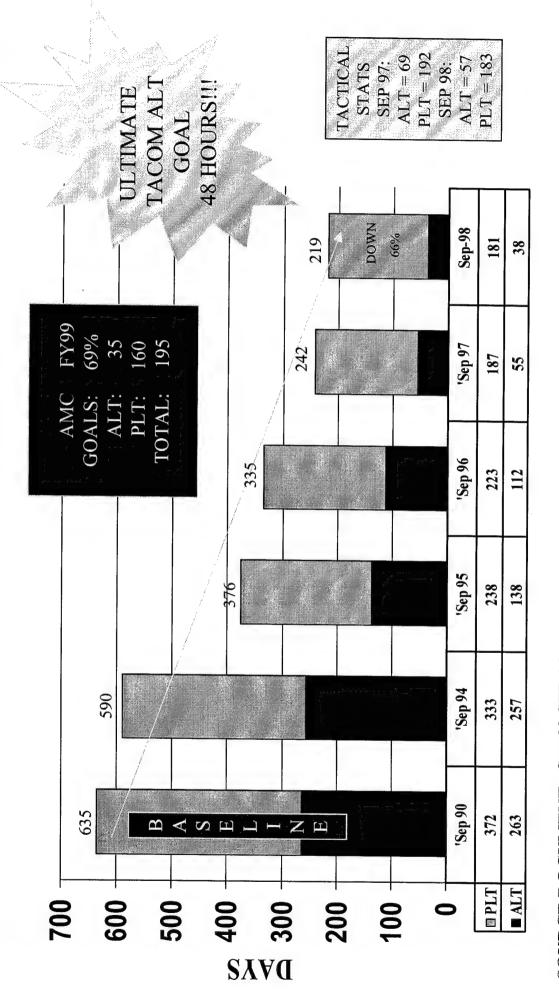


296



ALT/PLT REDUCTION PROGRAM TACOM MILESTONES





SOURCE DOCUMENT - Sep 98 STRAT

2/2/99

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We Need Your Help!

Future Truck Technology Needs



- Fuel Efficient
- "Clean"
- More Power
- Suspension and Running Gear
- Independent
- Active/Semi-Active
- Anti-Lock Brakes
- Automatic Traction Control
- Wheels/Tires
- Improved Run Flat
- Central Tire Inflation System
- Band Track

• Electronics

- Situation Awareness
- Movement Tracking System
- Improved Deployability
- Reduced Weight
- Reduced "Footprint"
- Extended Fleet Life
- Diagnostics/Prognostics
- Increased Corrosion Protection
- Safety
- Collision Warning System
- Crew Safety Protection
- Improved Ergonomics



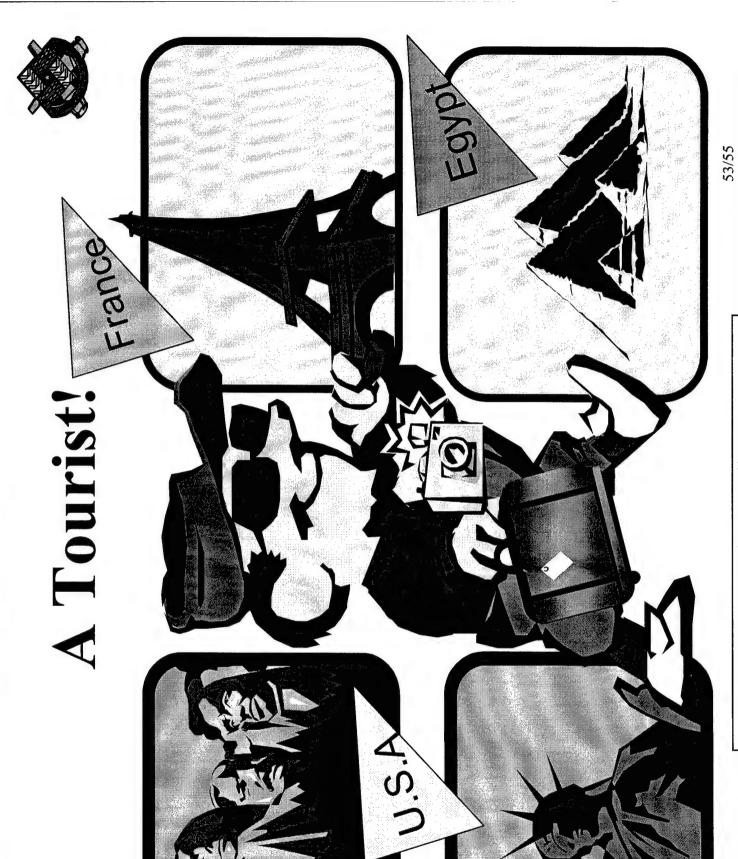
Conclusions:



- Total cost of ownership is critical
- Aging fleet
- Operation and Support cost consideration
- TACOM is source integrator for TWV sustainment
- Must renew the fleet
- Rebuild
- Remanufacture
- Buy new

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ACOM

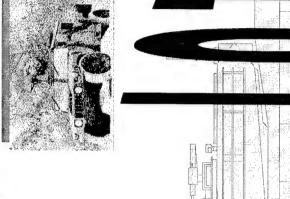
Mobility and Firepower

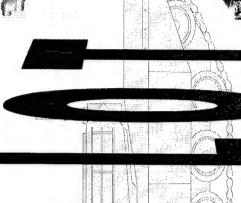


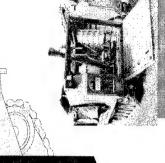








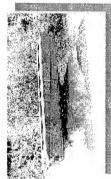


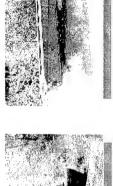








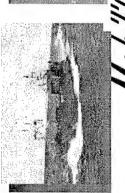




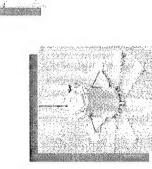






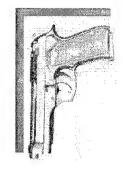


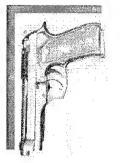


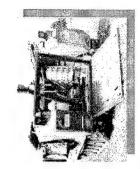


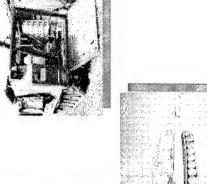


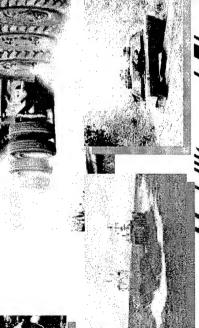
Mobility and Firepower for America's Army

















Backup Charts

2/2/99

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ON HAND INVENTORY

AWCF CLASS 2,4,9 BY CATEGORY



INVENTORY BY LOCATION

INVENTORY DOLLAR VALUE

t ENNY A	4000	
RED RIVER LETTERKENNY OTHERS USQUEHANNA	3000	57/55
ANNISTON ETTERKEN SAN JOAQUIN ETTERKEN ROCK ISLAND ETTER NEW CUMBERLAND/SUSQUEHANNA	2000	
ANNISTON ■ SAN JOAQUIN ■ ROCK ISLAND NEW CUMBER	1000	
N TTION SSS	0 \$ 0	Committed to Excellence
SSIR ACTIVE ECONOMIC RETENTION CONTINGENCY RETENTION POTENTIAL DOD EXCESS IN-TRANSIT	O N N N	Committed to
	1000	
EXCESS HITTER	2000	
STRAT ACTIVE ECONOMIC RET CONTINGENCY RET POTENTIAL DOD EXCESS	3000	2/2/99
STRAT ACTIVE ECONOM CONTING POTENTI	4000	

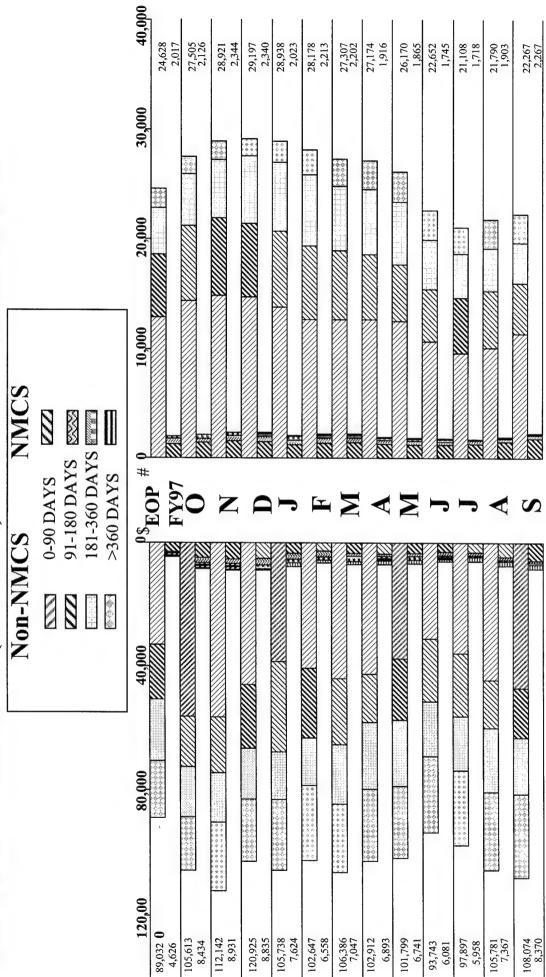


DOLLAR VALUE of STOCKED BACKORDERS STOCKED BACKORDER LINES



Dollar Value of backorders (thousands)

Backorder Lines



2/2/99

EOP = End of Period

Source: MILSTEP

58/55

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DORMANT STOCK



Supply Class 2, 4, 9

DOLLARS BY LOCATION

DOLLARS BY PLE/PRODUCT CENTER

□ Aircraft & Sm Arms □ Chem Tools □ Other	100 150 200						
☐ Armor☐ Field Arty	O 0 0 20	2	D				
☐ Susquehanna	00 150 100 50 Goal 5%						

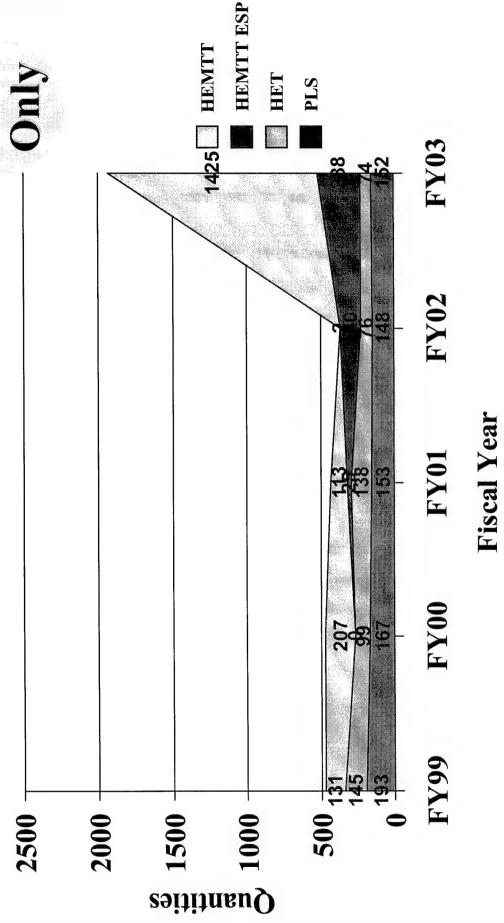
66/6/6



Heavy Tactical Wheeled Vehicles Production/ESP



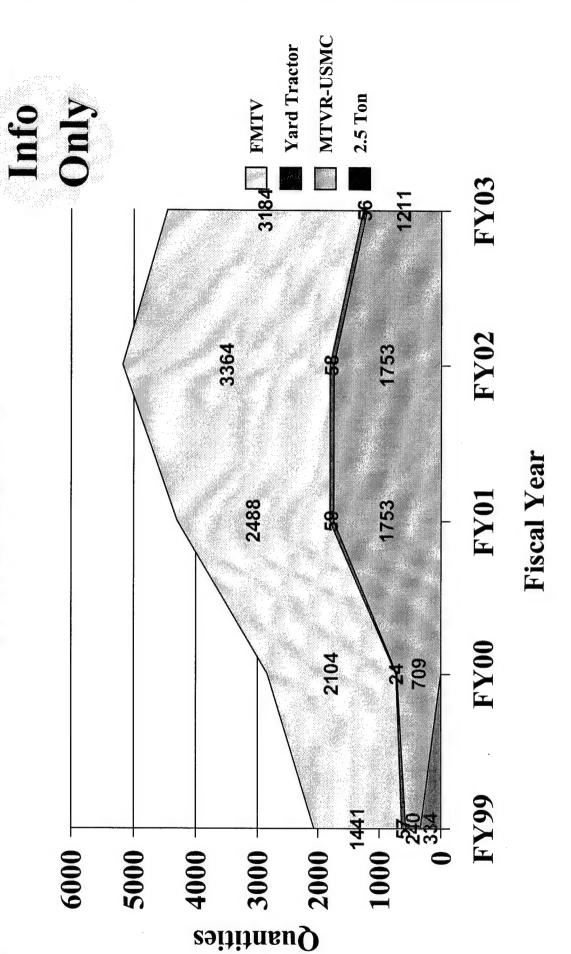






Medium Tactical Wheeled Vehicles Production/ESP





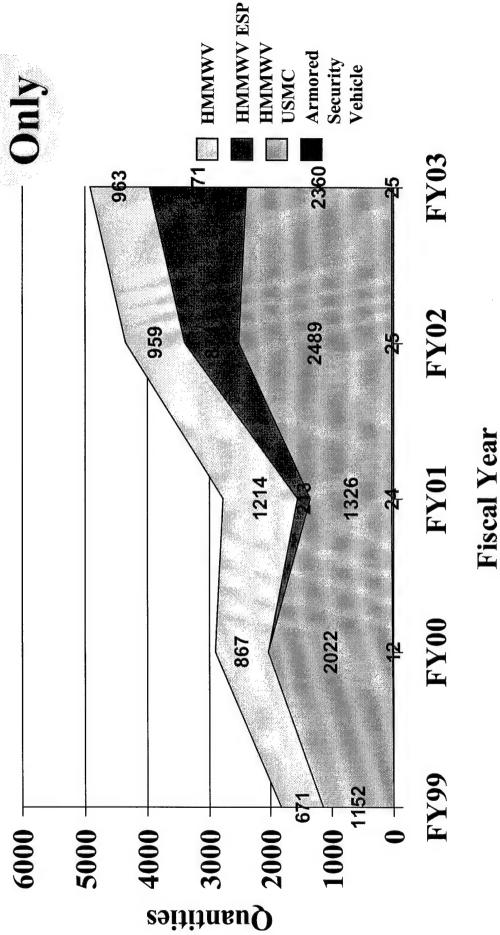
2/2/9



Light Tactical Wheeled Vehicles Production/ESP



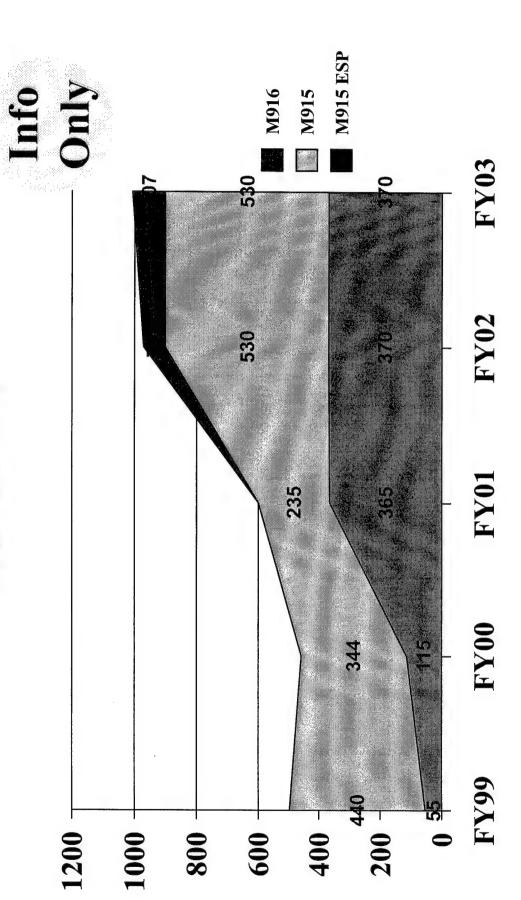






Line Haul Trucks Production/ESP





Quantities



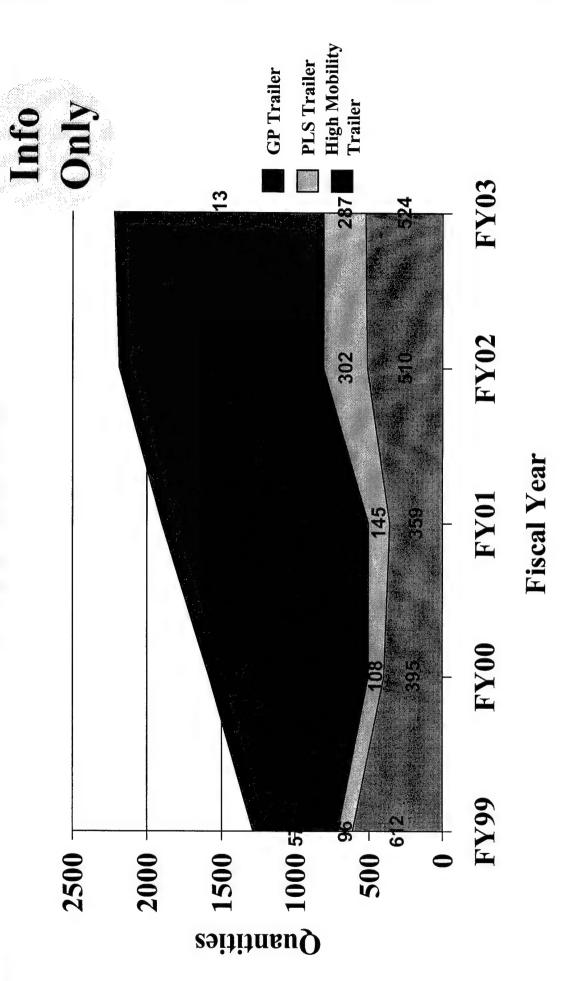
2/2/99

Fiscal Year



Trailers Production/ESP





2/2/99





TWV PROGRAMS / ACTIVITY TACOMIPEO-GCSS

NDIA TWV Conference

Monterey, California

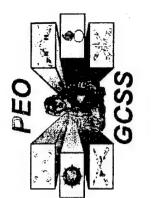
2 February 1999







TACOM / PEO-GCSS Speakers



Mr. Jerry Chapin - Director, TARDEC

Mr. Dan Mehney - Director, TACOM Acquisition Center

Mr. Al Puzzuoli - Deputy, PEO-GCSS

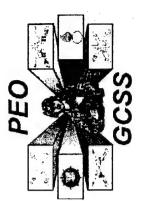
COL(P) John Urias - Deputy, Systems Acquisition (Deputy for Life Cycle Mgt.)







TACOM / PEO-GCSS Topics



Organizations and Responsibilities

Procurement and Production

Sustainment

Emerging Systems and Technologies









Organization & Responsibilities









Procurement & Production









Sustainment







Emerging Systems & Technologies

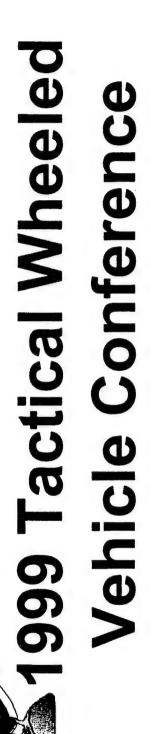




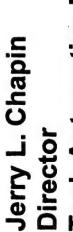




Mobility and Firepower for America's Army



1-2 February 1999



Tank Automotive Research, Development and Engineering Center

Tank-automotive & Armaments COMmand



TARDEC's Organization



Operations

Mr. Gregory Schmittling

Systems & Technology

Integration Exec VP

COL Michael Asada

Exec VP

Dr. Richard McClelland Exec VP

Research

IARDEC Director

Mr. Jerry L. Chapin

Mr. Walter Wynbelt

Development **Exec VP**

Virtual Prototyping Exec VP

Mr. Art Adlam

Engineering Exec VP

Mr. Pandu Rao

National Automotive Mr. Dennis Wend **Exec VP** Center

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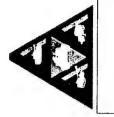
321

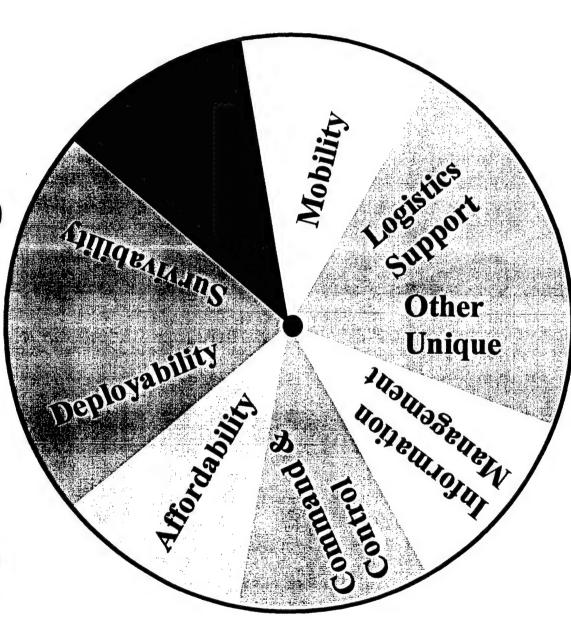
TARDEC's Mission

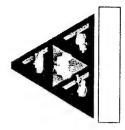
ш Z С _ Z Ш Ш С _ Z С Ground Combat Systems Combat Support Systems Combat Service Support Systems 日回>ヨーの中ME R II O II A II O II

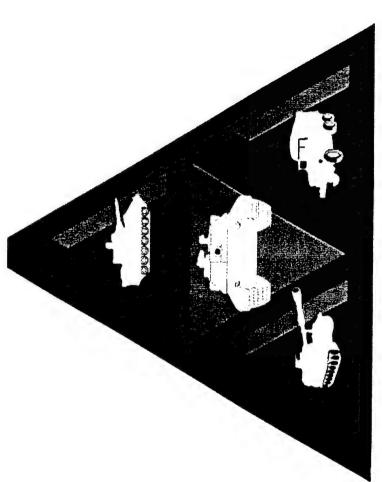


System's Integration









FARDEC

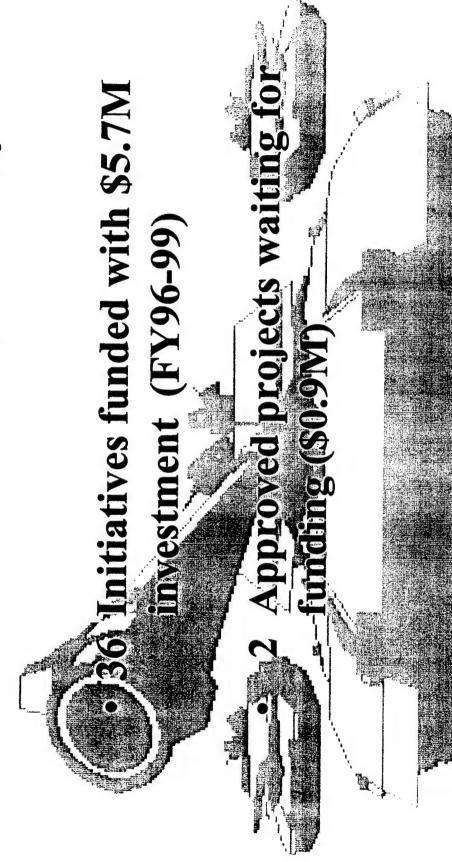
Operation and Support Cost Reduction (OSCR)





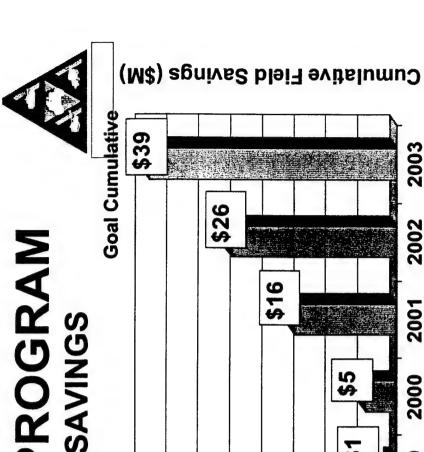
Project/Funding Summary TACOM's SMA-OSCR

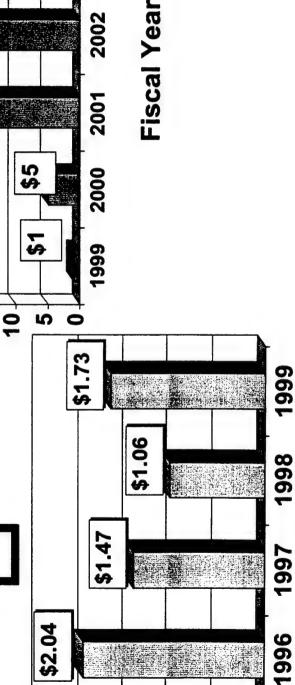






TACOM OSCR PROGRAM INVESTMENT vs. SAVINGS

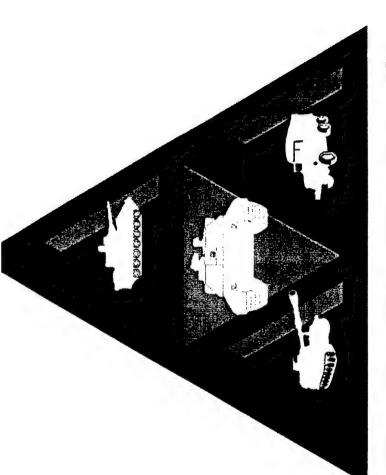






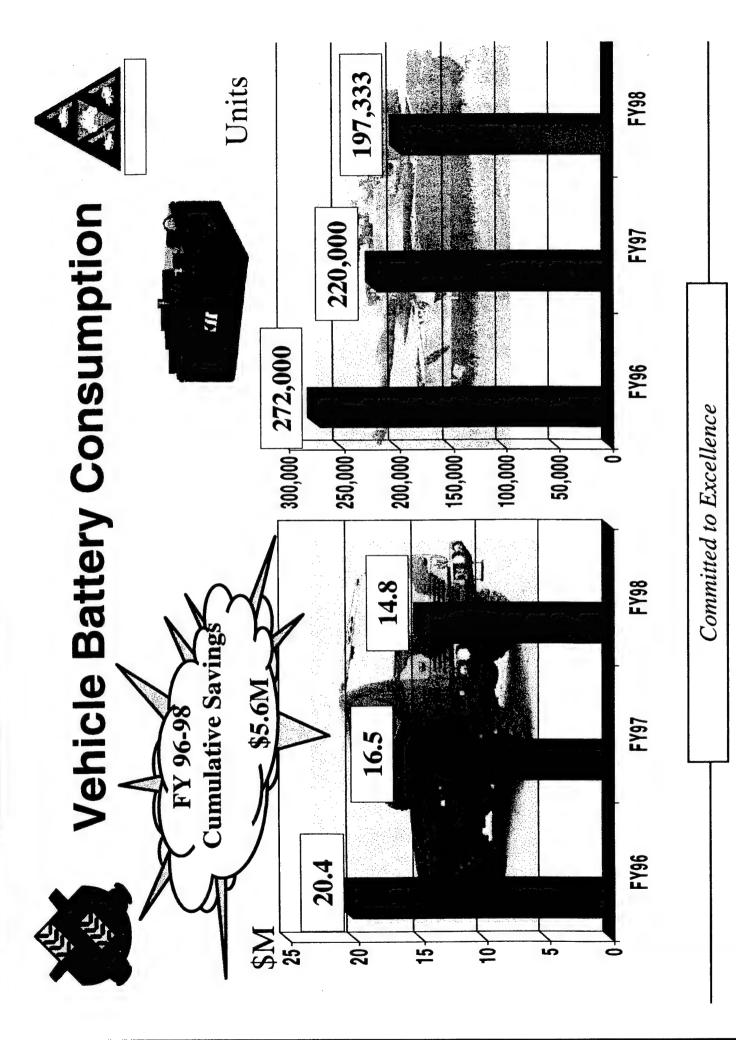
Fiscal Year





ARDEC

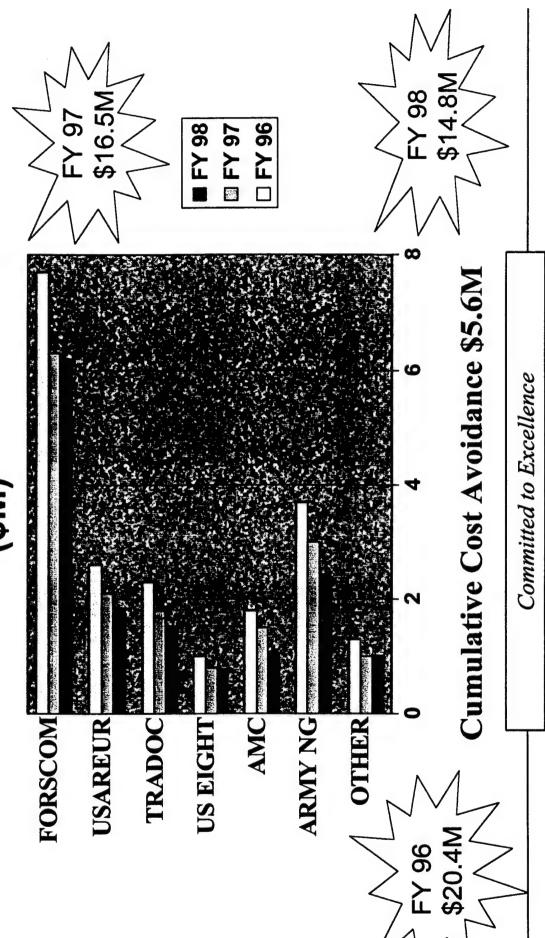
Batteries





Vehicle Battery Consumption

(\$M)





TACOM's Battery Management Program

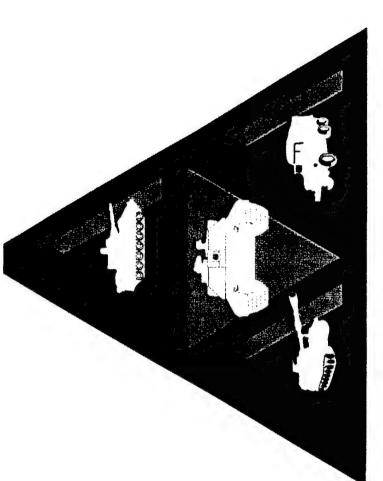


Awareness

- Maintenance
- Equipment
- Recovery
- Advanced Technology
- Current
- -- Solar Panels
- -- Maintenance Free Batteries
- -- Battery Maintainers/Chargers
- Future
- -- Smart Batteries
- -- Ultra Capacitors
- -- Advanced Battery Design
- -- Fuel Cells







TARDEC

Waste Oil Reutilization





Waste Engine Oil Reutilization

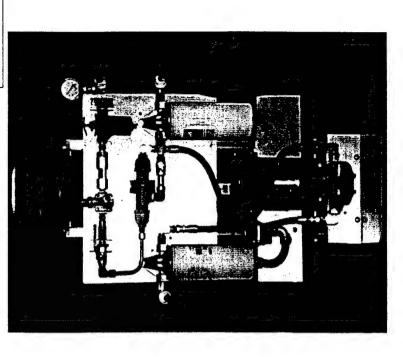


- Need: Reduce military costs associated with used/waste oil.
- Objective: Develop environmentally friendly, low cost used engine oil disposal system that recovers used oil energy for vehicle use (with savings of one gallon of used oil recovered equals one gallon of JP-8 saved).
- Concept: Blend proportioned amounts of used vehicle crankcase oil and JP-8 fuel at regular oil change intervals, returning mixture to vehicle fuel tank.



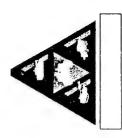


- Will meet EPA emission standards.
- No degradation of vehicle components or performance.





Waste Engine Oil Reutilization

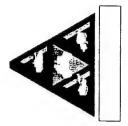


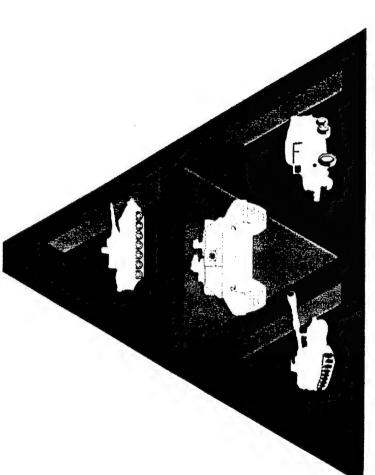
Test Results:

- Emissions test results at Southwest Research Institute fell below EPA ceilings on HMMWV and DD series 60 engines.
- Facility showed little or no performance degradation in 6.2L and 6V53T - Durability test results at TARDEC Fuels and Lubricants Research
- 6 month field demo at National Training Center, Ft Irwin, CA completed without any degradation of vehicle performance

Current Status:

- National Training Center (NTC) Fort Irwin; CA, Fort Polk, LA and; Fort Two (2) Blenders are being provided to each of the following: Lewis, WA.
- Blenders are to be provided to the Soldiers/Users for evaluation and feedback.





T A R D E C

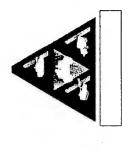
1st Century Truck

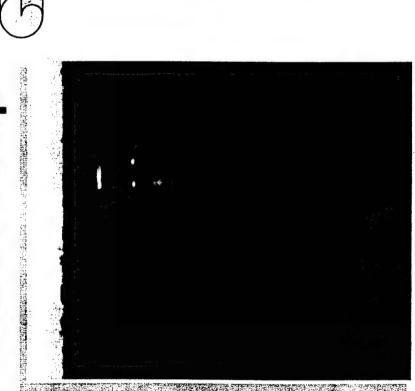




Government/Industry 21st Century Truck Initiative

Partnership





Truck Mfrs

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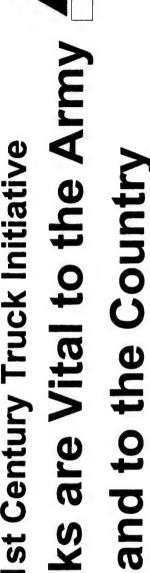
Powertrain Mfrs

Academia

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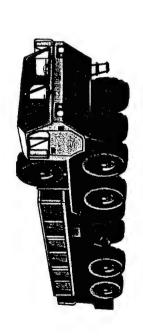


Frucks are Vital to the Army 21st Century Truck Initiative



Trucks Provide the Logistical Backbone to the Army

Trucks Account for Over 75% of the Nation's Freight Business



Fuel constitutes 70% of bulk

force on the battlefield. This

1980 1990 2000 cars equates to about 600,000 gailons per tonnage needed to sustain a military

Trucks burn more fuel than Light, Medium, and Heavy Source: Office of Transportation Technologies, DoE Fuel Consumption

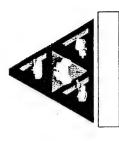
Army After Next Goal:

-Fuel Efficient AAN Task Force

"...75% Reduction in Fuel Requirements for a Deployed Force.



21st Century Truck Initiative Goals

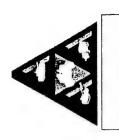


- Economic "leap-ahead" vehicle
- Increase fuel efficiency
- Reduce cost of operation
- Increase power generation performance
- **Environmentally friendly vehicle**
- Reduce emissions
- Reduce damage to infrastructure
- "Smart" truck for safety and security
- Integrate new Vetronics and data bus technology
- Develop user friendly information and navigation to increase driver awareness/alertness





21st Century Truck Initiative



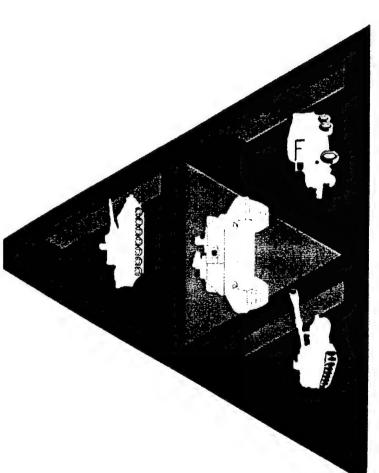
NAC Programs

- Optimized Motor and Motor Controller (ISE Research)
- Soft Switching Inverter (General Motors)
- Parallel Hybrid Electric Class 8 Linehaul Tractor (Radian)
- Series Hybrid Electric FMTV (Lockheed Martin Control Systems)
- Diesel Reformer Fuel Cell Hybrid (Sunline Services Group)

Other Initiatives

- Hybrid Electric HMMWV (PEI)
- Hybrid Electric M113 (UDLP)
- Hybrid Electric BFVS (UDLP)





ARDEC

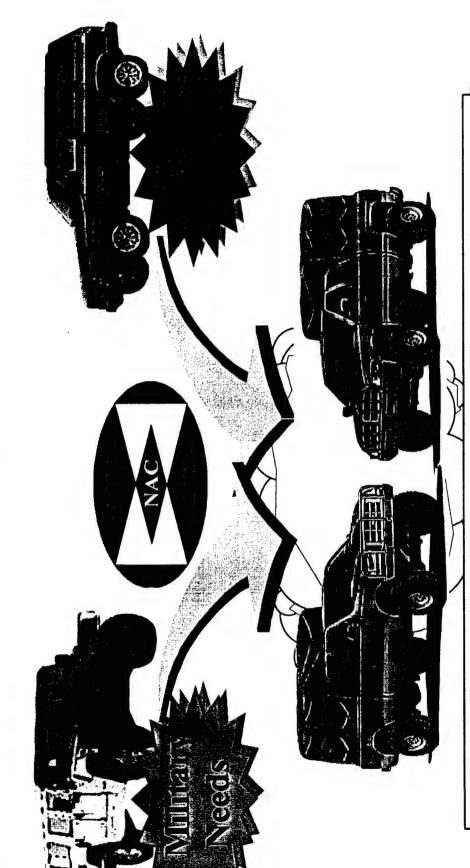
Commercially Based Tactical Truck (COMBATT)





Commercially Based Tactical Truck (COMBATT)





HMMWV Requirements for the 21st Century



Two Part Program



Modify Ford F350 and Dodge Ram Trucks

- WHY- Enhance performance in military environment
- » Increase off road mobility especially in soft soil conditions
- » Increase to 4,550 lb payload
- weapon mounts, tie downs/lifting eyes, antennae mounts) » Militarize (black out lights, camouflage paint, personal
- » Take advantage of current electronics and enhance as needed

Modify HMMWV with New Technology

- WHY Insertion into HMMWV Remanufacture Program
- » Enhance safety
- » Increase reliability
- » Reduce Operational and Support (O&S) costs
- » Insert new electronics



COMBATT Highlights

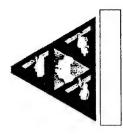


- Four phase program over 2 years
- Requirements planning and analysis
- Design to requirements
- Build to design
- Demonstration and evaluation
- **Demonstration**
- approach performance of HMMWV cargo troop carrier variant Appropriately modified commercially based trucks can
- Approach:
- Listen to the <u>USER</u>
- Share engineering decisions with PM-LTV and original equipment manufacturers
- Work with Army Testing Community (Actual and Simulated)
- Waterways Experiment Station (Mobility)



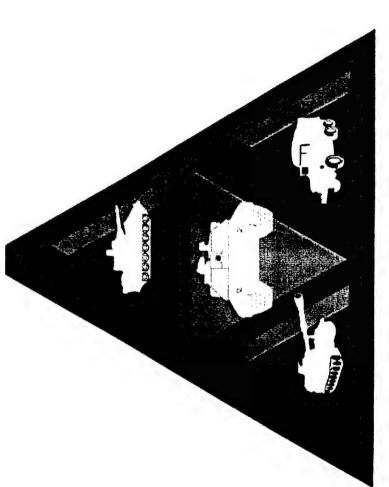


Other Customers



- MTL Services:
- Has identified potential customers from:
- Transportation, State and Local Law Enforcement US Departments of Justice, Treasury, Interior,
- · Germany and Great Britain
- Could influence production numbers/costs
- Informal working group of Federal agencies
- TACOM will chair
- May develop shared performance goals
- May share costs





T A R D E C

Vbrid Electric Vehicles



Series Hybrid FMTV



- Need: FY99 AAN Technology short list includes hybrid power systems, fuel efficiency. AAN goal is to reduce fuel requirements 75% by 2025
- Objective: Demonstrate greatly improved FMTV fuel economy and performance using commercial hybrid electric drive system for medium vehicles.





Series Hybrid FMTV



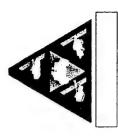
Description: Lockheed-Martin (LMCS) and Stewart and Stevenson will apply LMCS' commercial hybrid drive system for medium trucks (HybriDrive) to an M1078 Light Tactical Vehicle

• Benefits

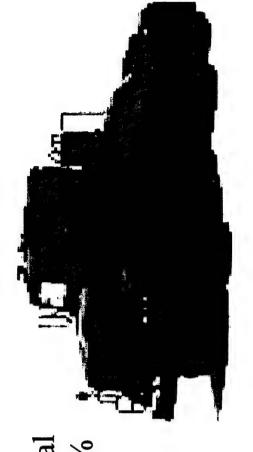
- Faster Acceleration
- Improved Traction
- Can supply mobile power
- Fuel efficiency improved 50%
- Reduced brake, axle and differential wear



Parallel Hybrid Line Haul Truck



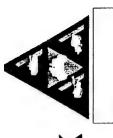
 Need: FY99 AAN Technology short list includes hybrid power systems, fuel efficiency. AAN goal is to reduce fuel requirements 75% by 2025



 Objective: Demonstrate greatly improved M915 fuel economy and performance using parallel hybrid electric drive system. Leverage off commercial Mack Truck application.



Parallel Hybrid Line Haul Truck

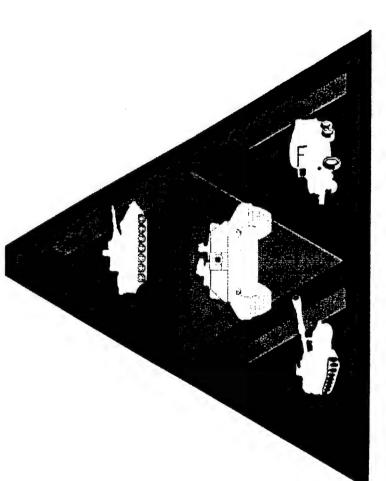


• Description: RADIAN, Inc., with Lockheed Martin (LMCS) and Mack Truck, will develop a parallel hybrid electric drive train for a Mack CL series line haul truck chassis. The CL chassis is similar to the M915 Truck Tractor.

• Benefits

- Faster Acceleration
- Can supply mobile power
- Fuel efficiency improved 50%
- Reduced brake, axle and differential wear
- Gradeability improved to meet M915 requirements in all climates





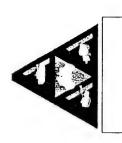
TARDEC

Crew Protection





for Operation Joint Endeavor **Crew Protection Kits**



Challenge:

Provide an immediate response to the requirement to protect Tactical Wheeled Vehicles against over 6 million mines & small arms fire.

Requirement:

Protect the vehicle crews from:

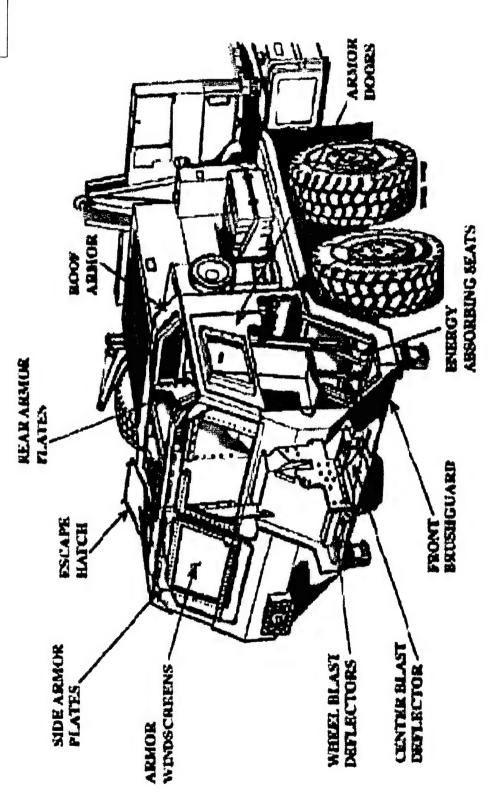
- 1. Anti-Tank Blast Mines (12 lb. TNT)
- 2. Small Arms (infantry rifle) fire
- 3. Anti-personnel fragmenting mines

^{*}Industry design and fabrication.

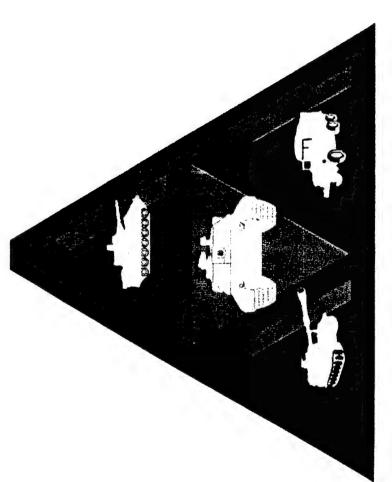


PLS CREW PROTECTION KIT









Corrosion





Current Status of the Fleet - an overview

- 800 Thousand Ground Vehicles in Army, NG and AR Units
- Environments, Long Term Storage (WRM), Active etc. Positioned in a Variety of Locations and Various
- Investment in 5 Ton Truck is ~ \$80 to 120 K (new)
- Corrosion Maintenance Costs \$800 to 1200/year/5T vehicle
- Cost to Replace One 5 Ton Cab is ~ \$17 K
- Total Cost to the Army is ~ \$2 B / Year !!!! (Battelle Study)



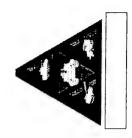
Accomplishments To Date



- Army's First ACT on an Entire Vehicle
- HMMWV at TRC in Ohio (80's)
- FMTV on going at TRC and APG
- Cape Canaveral Marine Exposure Facility
- JEEP Bodies and Door of 5 Ton Truck
- Coatings and Repair Procedures
- Construction, Design and Adv. Mfg. Techniques
- ♦ Field Evaluation of COTS:
- Zinc Rich Primers and Thermal Spray
- Corrosion Inhibiting Coatings: CarWell, Z-Tech etc.
- Chip and Abrasion Resistant Coatings



Accomplishments To Date - continued



- Composites
- Driveshafts
- HMMWV Hood
- Non Ferrous Metals
- Hatch Covers for Bradley and M-1 parts
- Base Plate for 80 mm Mortar
- FreightLiner M-915 Tractor has an All Aluminum Model
- 5 Ton Truck Stainless Steel Cab



U.S. Army Tank-automotive & Armaments Command



Acquisition Center Overview

NDIA Tactical Wheeled Vehicle Conference

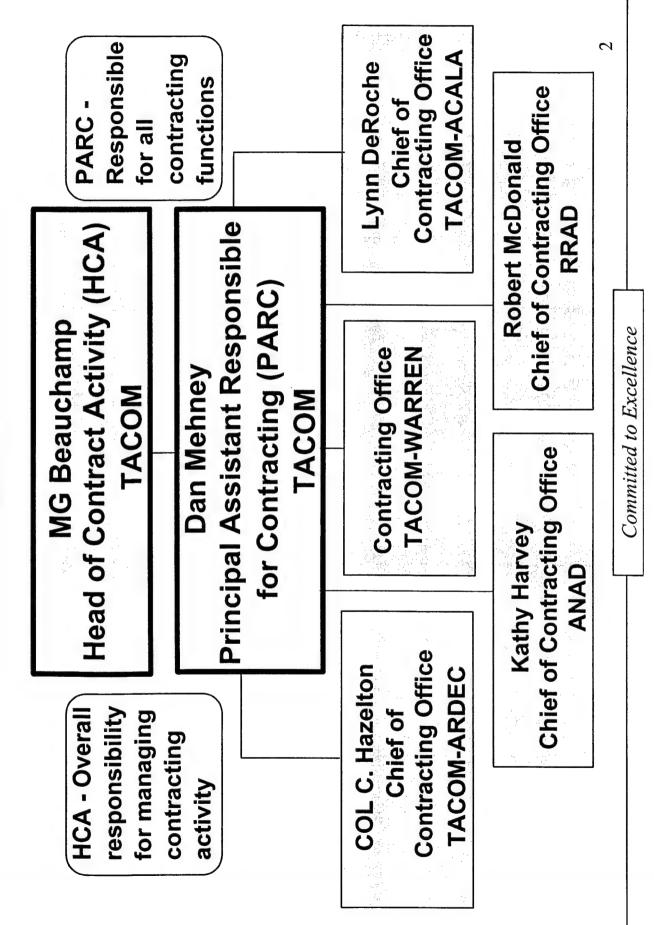
1-2 February 1999

Daniel G. Mehney Director, Acquisition Center

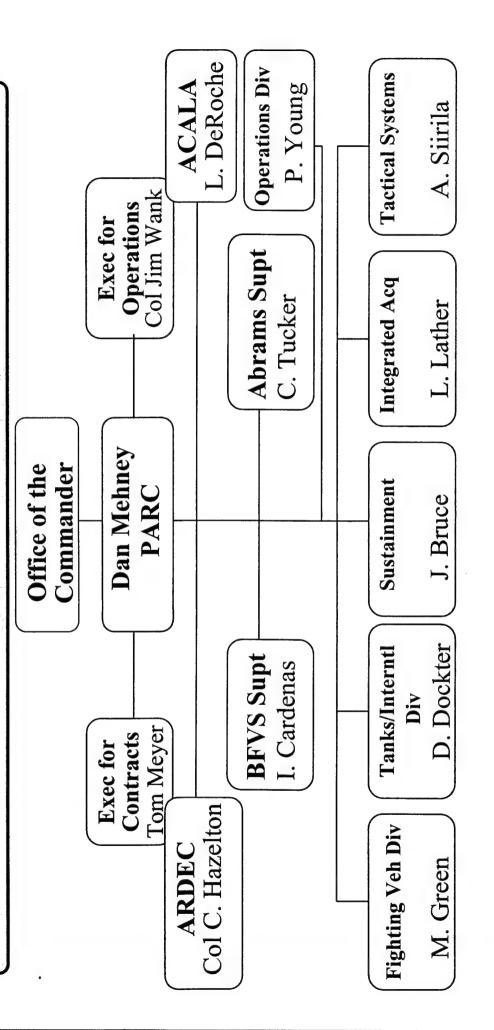
Committed to Excellence

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U.S. Army Tank-automotive & Armaments COMmand TACOM



ACOUISITION CENTER ORGANIZATION



m

ACQUISITION CENTER

ORGANIZATIONAL DEVELOPMENT

One site - Warren
Process focused
Hvy overhead structure
Hierarchical structure
Separate skill bases
Physically separate
From customer

3 Sites, 1 Center
Customer Aligned
Minimal Overhead
Team Concept
Skill Bases Integrated
Partially Co-located
with Customer

Sites
Org Integrated
Org Structured
IPTs

Multifunctional/Co-located W/Customer

FY92

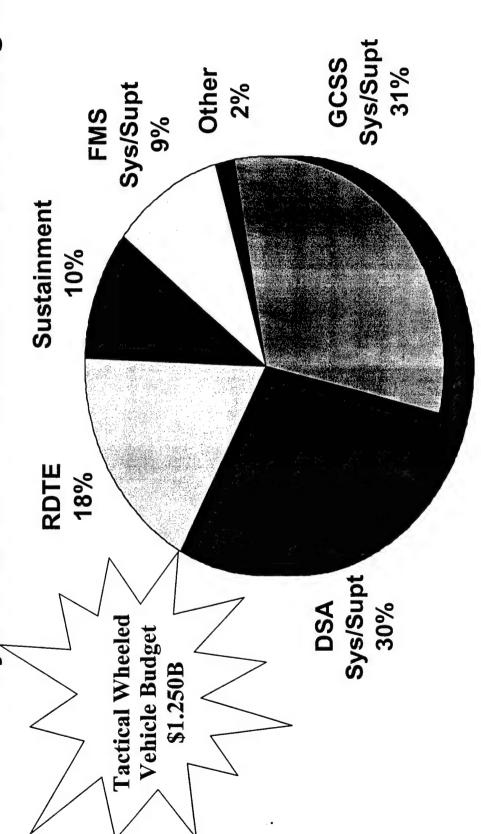
FY98

FY99 (in process)

Com

TACOM TOTAL FY99 OBLIGATION PROJECTIONS

Fund by Customer: \$4.59 Billion Estimated Obligation



V



U.S. Army Tank-automotive & Armaments Command



Reform & Streamlining Perspective

NDIA Tactical Wheeled Vehicle Conference

1-2 February 1999

Daniel G. Mehney Director, Acquisition Center

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Where We Were!

(FY92)

"Arms-length" Often Adversarial Limited Industry Input Functionally Segregated; Consecutive Processing

Government/Industry

Relationships

Design Specifications
Government Configuration Control
Extensive, Redundant Testing
Unique Processes and Products
Commercial Items The Exception

Requirements

Reform

Rule Based Process
Paper Process, Drawings & Aperture
Cards
Limited Imprest Fund Authority (<\$50)
Low Bid Preferred Approach
Large Inventories

Process

Reform

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Where We Are!

Government/Industry Relationships

Partnering
Integrated Product Teams
Concurrency in Procurement
(ALPHA Contracting)
Alternative Dispute Resolution

Performance Based Requirements
Contractor Configuration Control
Simulation in Lieu of Hard Testing
Single Process Initiative
Commercial Products & Processes

Requirements

Reform

Business Based Process
Electronics/WWW/EDI
Credit Cards
Long Term Contracts
Past Performance Evaluation
Best Value
Direct Vendor Delivery

Process

Reform

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 ∞

Where We're Going!

Government/Industry Relationships

Requirements Reform

Focus on Small Business Participation

Corporate Contracts

Longer Term, Fewer Contracts

Prime Vendor

Leveraged Business with DCMC/ DLA & Industry

Qualified Supplier List

Logistics Reform & Privatization Modernization Thru Spares **Shorter Cycle Times**

Ownership/Life Cycle Cost Focus On Reducing Cost of Commercial Products

Commercial Based Process

Electronic Contracting & Ordering Electronic Shopping Malls/Virtual Contracting Web Site Expand Credit Card Use **More Integrated Product Teams**

Process

Reform

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Buy Response, Not Inventory

Automated Best Value

9

Current Acquisition Examples Vibratory Roller

- · Upfront communications
- Draft spec released for industry comment
- Pre-proposal conference held
- RFP posted on the Web
- Streamlined evaluation criteria
- · Used oral proposals for some areas
- · Performance spec
- Negotiating manual supplementation after award using Alpha
- User to decide how much supplementation based on cost (CAIV)
- · Testing only military unique requirements; relying on commercial market acceptability for most requirements

Current Acquisition Examples MTVR

Performance Spec - only 11 MIL-SPECS or MIL-STDS

Shared design/perf simulation capabilities w/contractors

Used modeling/simulation to eval tech areas not tested

· Both draft and final Phase II RFP posted to web site

Oral presentations used for portions of Phase II proposal

Electronic data deliverables

Partnering agreement anticipated

Ξ

Potential/Pending/Recent Regulatory/ Statutory Changes

- ·Price based acquisition DOD study group formed
- ·Price reasonableness FY99 Authorization Act requires supporting data from industry
- Corporate Restructuring Proposed rule published to capture savings
- Non-conforming mat?l/conditional acceptance Proposed FAR rule requires PCO to withhold funds
- •Depot maintenance competition FY99 Appropriations Act requires comparable cost basis; excludes A-76 requirements
- FMS Procedure Reform ongoing DOD process action team



U.S. Army Tank-automotive & Armaments Command



Industrial Base

NDIA Tactical Wheeled Vehicle Conference

1-2 February 1999

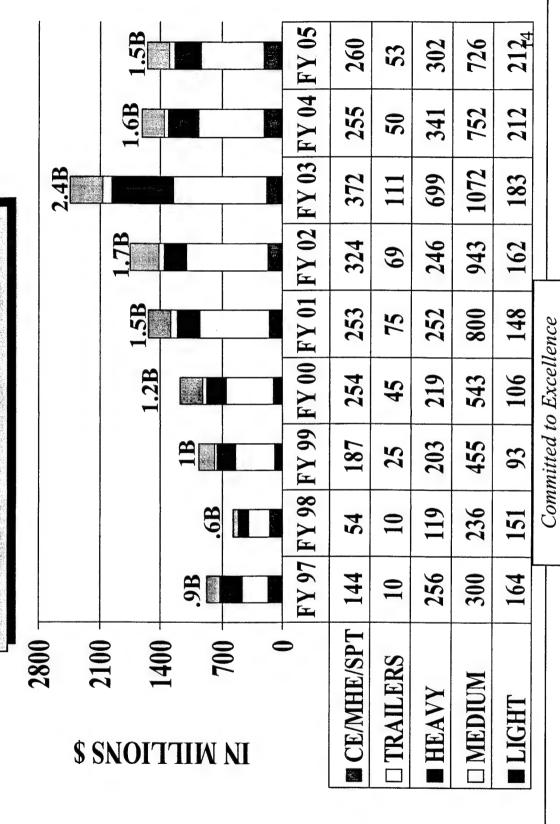
Daniel G. Mehney

Director, Acquisition Center

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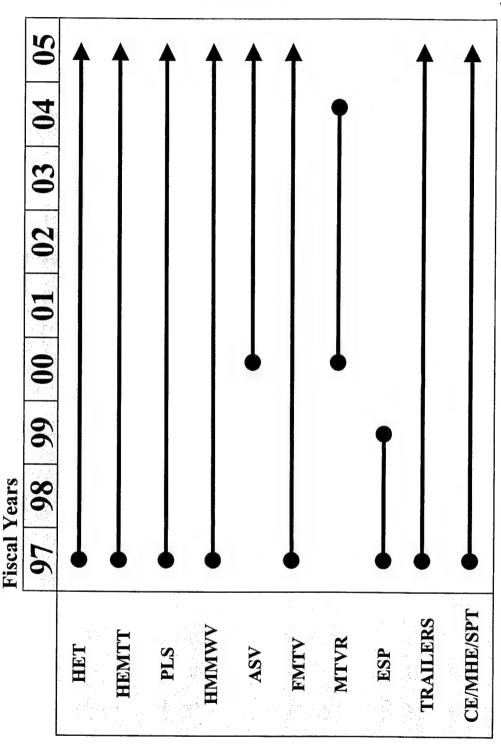
TACTICAL WHEELED VEHICLES

REQUIREMENTS \$\$\$



- TACTICAL WHEELED VEHICLES

PRODUCTION PROFILE



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TACTICAL WHIFELED VEHICLES

FUTURE INDUSTRIAL BASE ASSESSMENT

> Tactical Wheeled Vehicle Industrial Base Assessment now in process - Target Completion 30 Sep 99

> Essential that industry contributes to the assessment

>Study limited to new vehicle production impacts on industry regarding engineering support and STS requirements

▶ Identify parts that will no longer be manufactured so that appropriate resolution can be immediately initiated

Next requirements in order to maintain and sustain an effective ▶ Determine industry impacts on Force XXI and Army After Tactical Wheeled Vehicle industrial base

Ground Combat & Support Systems Deputy Program Executive Officer, Mr. Albert Puzzuoli



Mission Statement

That Places the Best Ground Combat and Support To Maintain a Total Army Perspective in Managing the Development, Acquisition, Testing, Systems Integration, Product Improvement and Fielding Systems in the Hands of our Soldiers



Army PEO Structure

Acquisition Executive Pentagon

> MG J. R. Snider Huntsville, AL Aviation

BG D. L. Montgomery Air Missile Defense Huntsville, AL

COL (P) J.W. Holly Tactical Missiles

Command, Control & Comm Sys

Ft. Monmouth, NJ

BG S. W. Boutelle

Redstone Arsenal, AL

Intel Electronic Warfare & Sensors Ft. Monmouth, NJ MG D. Gust

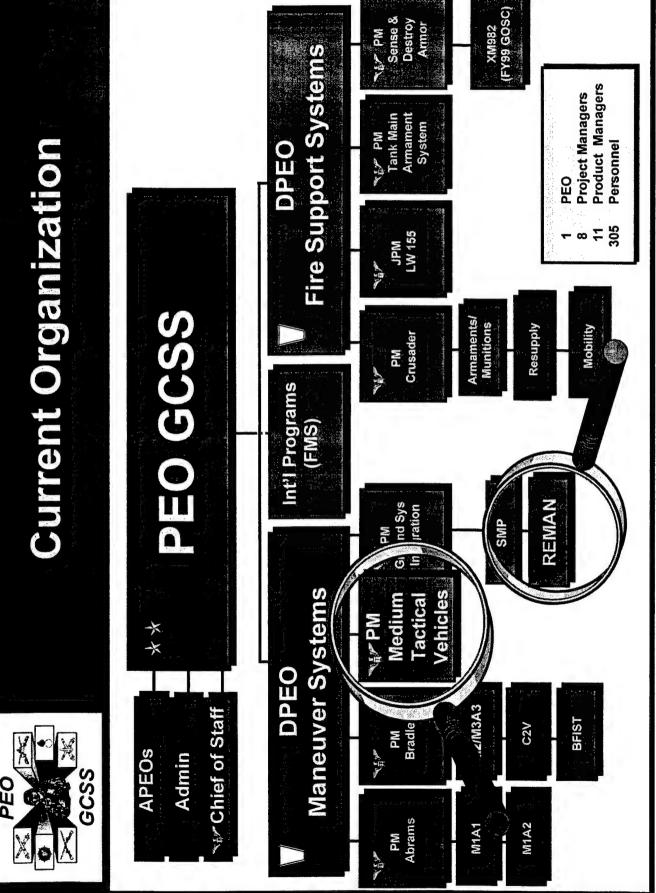
Standard Army Management Info

Ft. Belvoir, VA

COL S. deKanter

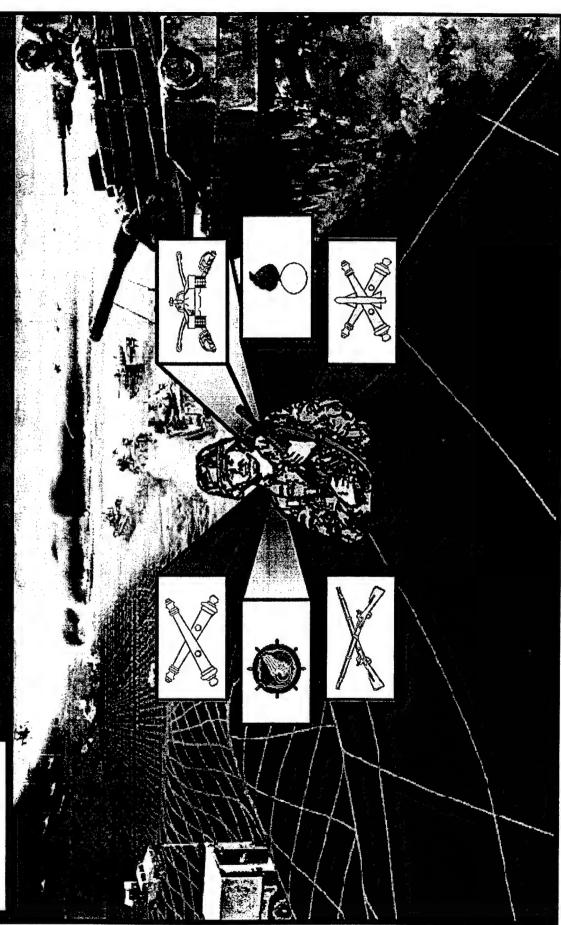
Ground Combat & Support Systems Picatinny Arsenal, NJ MG J. F. Michitsch Warren, MI







Procurement and Production





FMTV Program Background

- Class with over 80% Commonality and 2 Complementary FMTV - 14 Truck Models in the 2 1/2 and 5 Ton Payload **Trailers**
- 85,000 Vehicle AAO Required over 30 Years
- First Production Awarded in Oct 91 to Stewart & Stevenson (S&S) for 11,300 Trucks in 12 Models
- First Unit Equipped Date Jan 96
- Second Production (A1) Awarded in Oct 98 to S&S for 8,668 Trucks in 11 Models and 1,560 Tactical Trailers
- AM General and Oshkosh for 3 Pre-Production Vehicles Each Phase I FMTV Second Source Awarded in Oct 98 to



A1 Model Production Upgrades

Chassis

- CAT 3126 Engine w/Electronic Control (EPA 98 Compliant)
- Allison World Transmission Electronic Controls (WTEC III)
- Meritor Hub Reduction Axles w/Antilock Brake System (ABS) (DOT 98 Compliant)
- SAE J 1708/1939 Compatible Data Bus
- Interactive Electronic Technical Manuals (IETMs)
- New M1082 Light Trailer with 2 1/2 Ton Payload
- New M1095 Medium Trailer with 5 Ton Payload



FMTV Production Verification Test

Consists Of:

4 LMTV 2 1/2 ton Trucks

2 for RAM (20K miles)

2 for IETM VALVER

11 MTV 5 ton Trucks

3 for RAM (20K miles)

2 for PERF

6 for IETM VALVER

OUTCOME

Validate A1 Improvements

*Accumulate Additional 100K Mileage

on Driveline



FMTV Driveline Improvements

ENGINE FLYWHEEL HOUSING

Increases Strength Nodular vs. Grey Iron with Increased Wall Thickness

DRIVESHAFT

Larger Diameter Tube

Reduces Dynamic Deflection

YOKE

Full Round vs. Strap Attachment



◆ Increases Retention Force

L-JOINT

■ Nylon vs. Steel Thrust Washers



Increases Fatigue Life



ESP Current Programs

- Purchased with FY99 Funds 600 Vehicles
- Total Program Buy 5,488 Vehicles
- Production Line Scheduled to Close April 1999
- Fielding Completed by June 1999

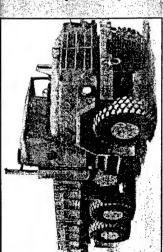


ESP Termination/Rational

- Insufficient Funds to Support Economic Production of **Both ESP and FMTV**
- ESP Funds Shifted to Purchase Additional LMTVs for the Reserves
- Medium Fleet Modernized by 2017 With a Mixture of LMTVs and ESPs
- 2 1/2 and 5 Ton Requirements Filled with FMTVs by

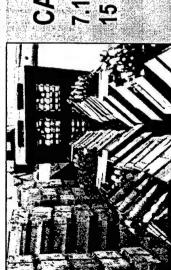


MTVR Requirements



MOBILITY

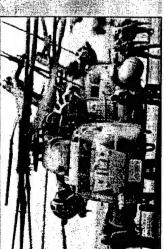
Tactical High Mission Profile (30% Highway/Secondary Roads, 70% Trails and Cross-Country)



CARGO CAPABILITY

7.1 Tons Cross-Country, 15 Tons Highway





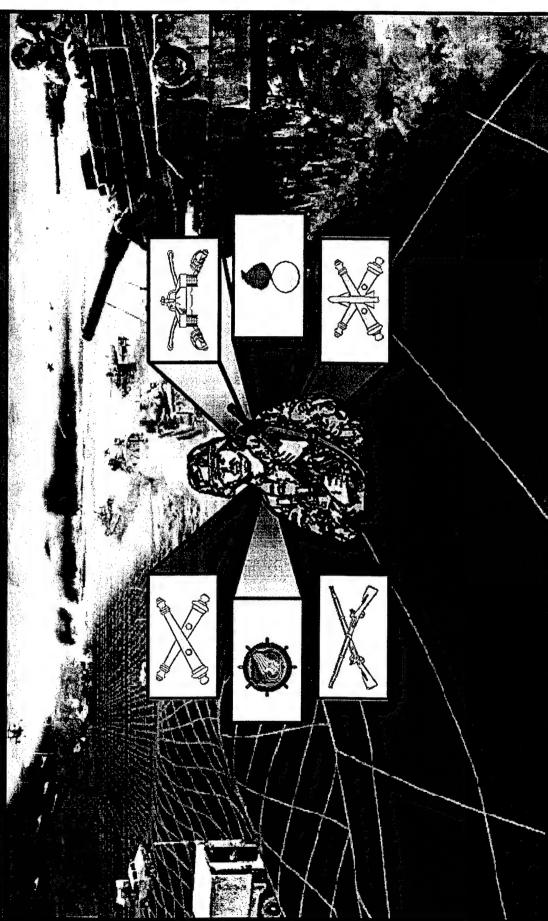
CH53 HELICOPTER LIFT

Vehicle Weight Less Than 28,000 Pounds





Field Support





FMTV Contractor Logistic Support

- Vehicle Manufacturer as Source of Supply
- DLA Corporate Contract
- Field Focus
- Onsite Technical Representatives
- Warranty Program (18 Month/12,000 Miles)
- Retraining Classes
- PQDR Responsiveness
- Contractor Parts Support (After Market Sales)
- 24 Hour Turn Around Time on Part Delivery
- Full Parts Delivery Support
- IMPAC Card Response to Field



MTVR Contractor Logistics Support

Customer Focus

- Onsite Tech Rep
- 24-Hour Hotline
- Improve Order & Ship Cycle Time
- Reduce Stockage

Contractor Focus

- Beyond Traditional Govt/Industry Supply Method
- Electronic Commerce with Direct Vendor Delivery
- Performance Metrics
- Supply Chain Management
- Encourage Innovation





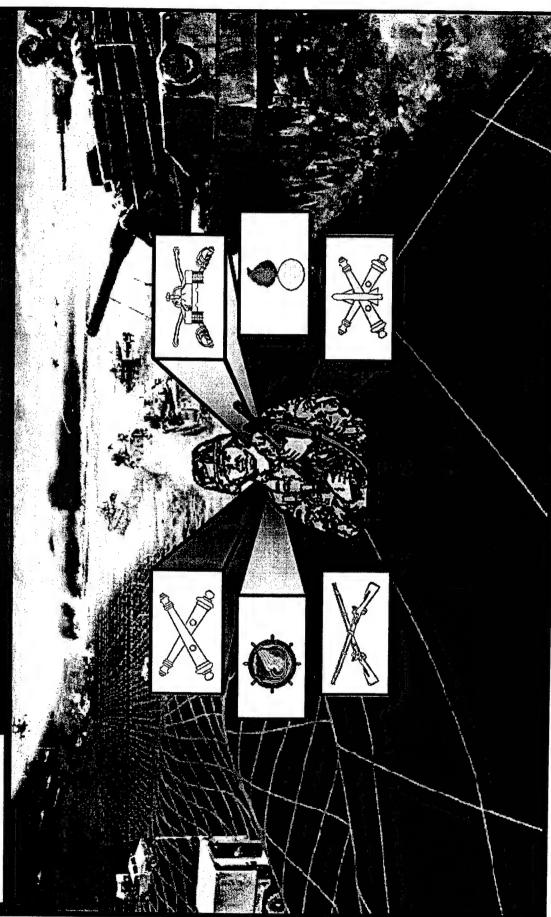
- Life Cycle Cost Accounting
- Total Asset Intransit Visibility



OEM as Complete Source of Supply



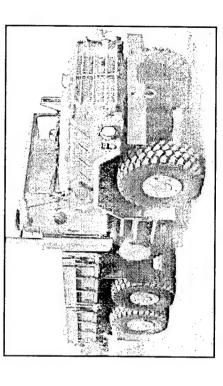
Emerging Systems & Technologies





MTVR Acquisition Strategy

- Two Phase Acquisition
- Phase I Prototypes and Testing; Completed April 98
- Phase II Downselect to one Production Supplier
- Production Contract Awarded to Oshkosh Truck Corporation
- 5 Year Multi-Year Contract to buy all of the USMC Medium Truck Requirements
- Initial Production Model Will be the Standard and Long Wheel Base Cargo
- Parallel Development Effort for Dump, Telephone Maintenance, Trailer and Wrecker Variants





Second Source Plan/Approach

- AAE Directive 11 Sep 97- Introduce Competition at Earliest Junction Possible Within Current Funding Streams
- Acquisition Plan Approved 27 Nov 97- Two-Phase Approach to Prepare Second Source for Competition with the Current FMTV Manufacturer in FY03
- Phase I- Multiple Competitive Pre-Production Awarded Oct 98 Each Contractor Builds 3 Vehicles to System Performance Specification w/ TDP Provided for Reference
- Phase II- Competitive Second Source Production Award Downselect Planned in FY00 for 3-Year Multiyear
- Beginning in FY03- Stewart and Stevenson and Second Source Compete for Share of Follow-On 5-Year Competitive Multi-year **Production Contracts**



Second Source Current Status

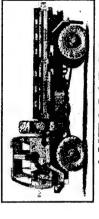
- Phase I Awarded 30 Oct 98 to AM General and Oshkosh Truck Corporations
- Fixed Firm Price (FFP) Contract to Build Three Pre-Production Vehicles:



MTV TRACTOR



MTV CARGO



LMTV CARGO

- Goal-Achieve Maximum Operational Effectiveness at the Lowest Possible Cost by Maximizing Vehicle Commonality Among the FMTV A1 Fleet Emphasis is Placed on Minimizing Operating and Sustainment Costs
- Milestones:

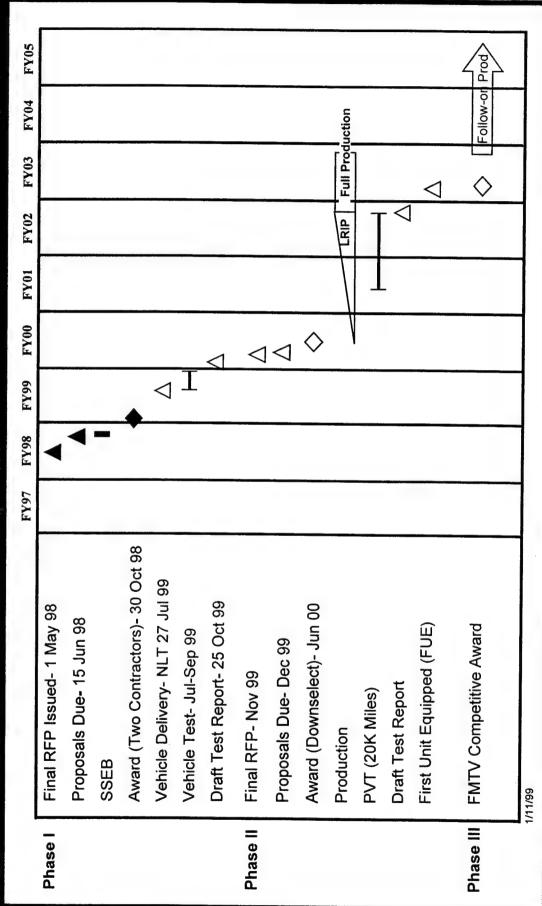
PHASE II

PHASEI

D&F Approved J&A Approved Phase I Awarded	27 Feb 98 28 Feb 98	Kelease Final KFP Proposals Due Source Selection Evaluation	Nov 99 Dec 99 Dec 99-Feb 00
Delivery	27 Jul 98	w/ Congressional Language Feb 00-Jun 00	Feb 00-Jun 00
6,000 Mile Technical Test	Jul 99-Sep 99	Award Phase II	Jun 00



Second Source Schedule





TACOLE MANAGEMENT OF THE PARTY OF THE PARTY

2 February 1999

COL (P) John M. Urias Deputy for Systems Acquisition ank-automotive & rmaments of the land Committed to Excellence

₹5000



te Army's Focus for the Ft



Full Dimensional

Protection

Combat powe Trucks are

Full Spectrum

Dominant Maneuver

Project the Force
Army Vision 2010 - Joint Vision 2010

Focusee Logistic

Sustain the Force

Decisive

Shape

Gain Inform Dominar

Engagement

Actively Period bear as a fine and lies varieties. As Filly Filly Elighted Division by E. (63) So Filly Digitized Comps by EV(64) So Filly Digitized Comps by EV(64)



Heavy Tactical Vehicles

(HTV)

Appliqué + Integration Currently Working

- Movement Tracking **ACOE** Compliant System (MTS) is
- MTS Successful in Bosnia

Weapons Systems (TAWS) Tank Automotive

- Systems Outfitted and Played in TF XXI AWE
- Appliqué + Integration Currently Working

5 Ton Truck

Committed to Excellence

Appligué + Integration

Currently Working

ASV and

XXI AWE

NAMMH

 Systems Outfitted and Played in TF

Light Tactical Vehicles



Leasing

CE/MHE Rebuild Programs

MTS

ABS



Lower LCC Through

Prognostics & Diagnostics

Improved Reliability

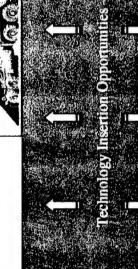
Leveraging Commercial Technology



HEMTT LHS

PMO





PMO

Production 8 0.

FHT

RDTE



Virtual

Award ATD Contract

Submit ATD STO

Concept Analysis

Concept STO Submit

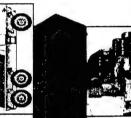
Fechnology Survey / CBD

TARDEC

Safety

Jan 99

Jan 00



Technology Insertion Opportunities

NAC



Line Haul (class 8)

Parallel Hybrid

Sealed Hood

Electric





1460

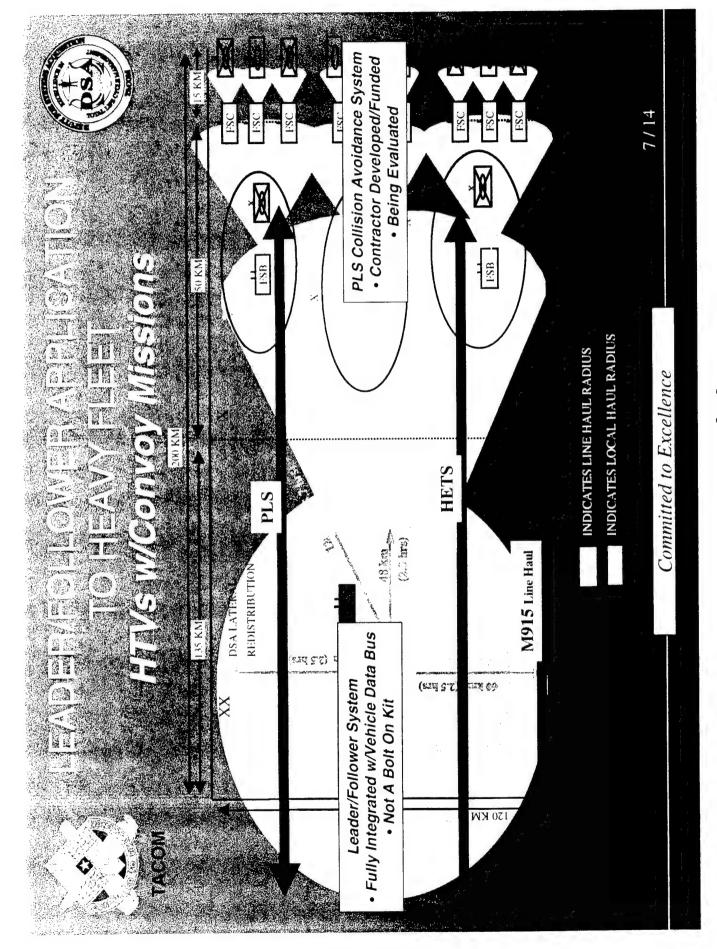
We work terestical minable divisit states in the saling of the officers of the saling states and officers.

Increase:

- . Productivity
- Efficiency
- · Safety
- Control
- Command & Asset • Resource Management
- Reduce human risk
- LOS/NLOS capable.

Integrates future robotic & logistic technologies.

- Added benefits:
- Can provide feed-back data - location, route, fuel status,
 - location, route, ruel status inventory, real time messaging, diagnostics, driver physiology.
- Reduce O&S costs.





SELLINEH BYLLOUIS

- lighty reliable vehicle components 1939 data bus, sensors & displays

rovide operator requirements on display: fuel levels

- trans. oil temps system voltage
- air filter indication
- coolant levels, etc.



Hood opened only for Maintenance.



EPA Requirements

Fuel Economy

acceleration

stealth

Performance

Parallel Hybrid Electric

Line Haul (class 8)

FMTV Series Hybrid Electric

on-board power

Alternative Propulsion Programs

Electric HMMWV



and the Investment

- Extended Supports a Recapitalization Effort to lot the Fleet Within Economic Thresho

 • Leverage off Previous Investment

 • Recoup Residual Value
- Extend Life of the Legacy by Improving RAM

Maintain Production:

- Maintains HMMWV Production for AAO Requirements:
- Replacement Vehicles
- Heavy Variants
- **USMC and USAF Requirements**
- Spares for Legacy Fleet

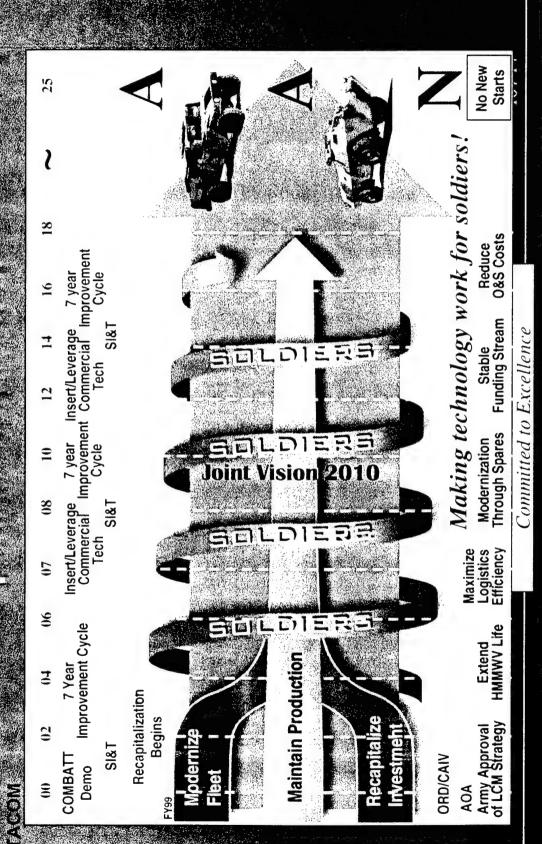
Modernize Fleet:

- Leverages Commercially Based Tactical Truck (COMBATT) **Technology Demonstration Program**
- Insert Commercial Technologies
- Meet Army XXI, Legislative Requirements

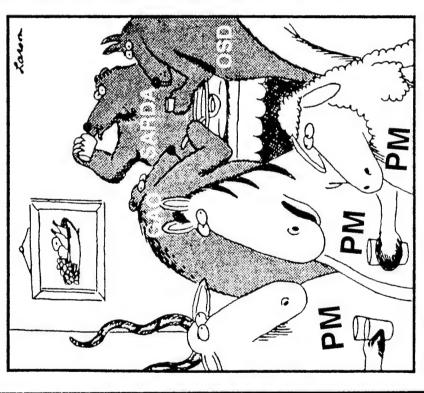


Insertion Tech



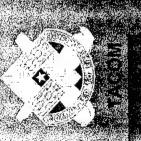






"I don't like this....The carnivores have been boozing it up at the punchbowl all night—drinking, looking around, drinking, looking around ..."

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Separate Visions Lack of Integrated TWV Strategy

Lacks Cohesiveness
 Individual Lobbying Efforts

 Competing Interests



Comorrow's Possibilities

Stronger Position against \$ Cuts

Cohesive Lobbying Efforts

Unified Interests

Synchronized Requirements

Overarching Vision

Integrated Vision

Strength in Numbers - Total Approach!





- Trucks Are Combat Power
- "Systems that Kill, Don't kill much of anything without Trucks!"
- Logistics Requirements will exponentially increase in Army After Next
- Think Out of the Box!

Requirements additional Funding is Necessary! To Keep Pace with Army's JV2010 & AAN

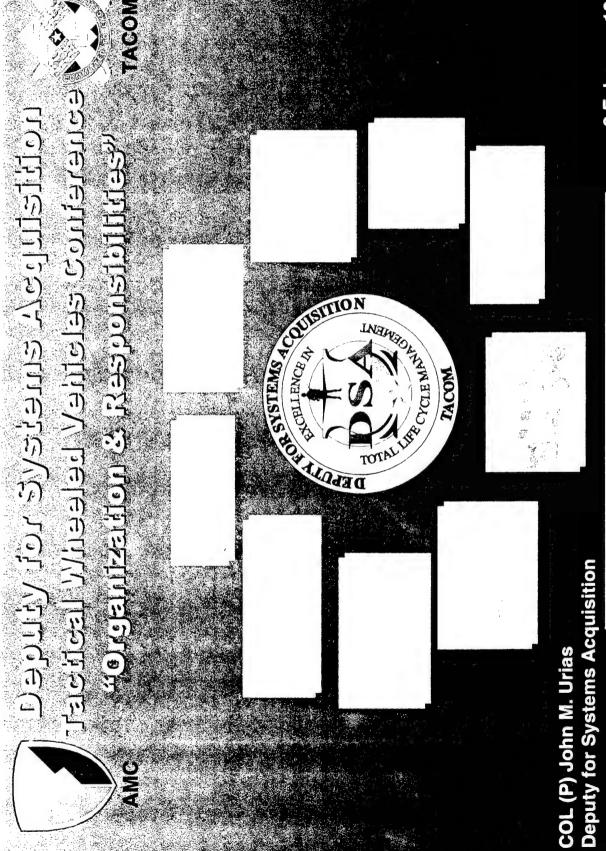
13/1





John Maynard Keyes, Economist

Committed to Excellence



2 February 1999

Fank-automotive & Armaments (1913) Imand
Committed to Excellence







"And so you just threw everything together? ... Mathews, a posse is something you have to organize."



TOTAL CONTROL OF THE PARTY OF T

A CONTRACTOR OF THE CONTRACTOR

- To Generate Warfighting Capability for the Army
 - To Sustain the Warfighting Readiness of the Army
- To Manage the Army's Investment in S&T, R&D and Sustainment for the Army
- Serve as the Life Cycle Manager and Integrator for Ground Combat Equipment

TACOM ပ္ပ

Resource Acq Center ACALA

Management

DSA

MMC

TARDEC

ARDEC

TACOM VISION

To make the technology and sustainment systems work for soldiers through the seamless integration

To create

at TACOM where every associate understands the requirement to

and

and understands their inherent responsibility to do so.

476 People \$7.4B Procurement 21 PM's PM-Mortars PM-Paladin PM-MCD PM-Small Arms Over 300 Systems \$828M RDTE \$1.1B FMS DSA PM-CMS 2000年11日 - INFE AND ASSESSED.

Tank-automotive & Armaments Command

Research, Develop, Field and Support Mobility and Armaments Systems To Support Army Readiness

18.0

Large Caliber Guns Sets, Kits & Outfits Shop Equipment Chemical Defense Equipment

Aircraft Armaments Bifles Machine Guns Ammo

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403









2 Feb 99

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- evelopano malmanna multatura torrandra esperante in intermental esperante de la compansión de la compansión de
 - Harmonize the DSA efforts with the other business centers and entrance statement and our other customers.
- Execute telephone in the programs with emphasis on efficiency and cost reductions.
 - Institutionalize an engine after the little wherein the reconstitution and a standard way of doing business.
- customers ensuring of the contract of the cont • Build end vertile visiting the best of with contractors and
 - Create an organizational structure that automatically responds to the The direction of Joint Vision 2010 and Army After Next. fast changing environment while resolutions and a second s

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M1977 (Common Bridge Transporter CBT) 2,100+ BRIDGES 13,000+ HEMTTS 1,600+ HETS



M1074/M1075 (PLS)



M1070 (New HET Tractor)



M984 (HEMTT Wrecker)

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M983 (Patriot Tractor)

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M915/6/7 Series



M939 5 Ton

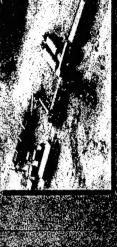
22.5 Ton Semitrailer

M871A2



Yard Tractor

M129A4 12 Ton



Asphalt Mixing Plant (AMP)

M1061A1 Fuel Pod



RTCH

37,000+ TRACTORS/ TRUCKS 66,000+ TRAILERS

"Strategic Mobility and Beyond" Semitrailer Van

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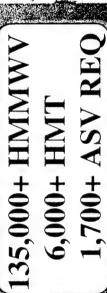
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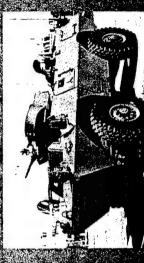






M1101/M1102 High Mobility Trailer (HMT)





Armored Security Vehicle



HMMWV

"Light Trucks-Multiservice Mobility & Backbone of the Force"

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	PROCUREMENT	RDT&E	TOTAL
PM, TAWS	3,633.417	138.712	3,772.129
PM, PALADIN	49.222	0.000	49.222
PM, LTV	1,069.781	18.700	1,088.481
PM, MCD	1,298.797	441.297	1,740.094
PM, CMS	1,571.634	197.532	1,769.166
PM, HTV	2,264.030	35.404	2,299.434
PM, SMALL ARMS	355.327	295.433	650.760
PM, LAV	197.268	22.047	219.315
PM, MORTARS	673.897	0.000	673.897
TOTAL	11,113.373	1,149.125	12,262.498

Tactical Wheels

2 Feb 99

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Extremely Diverse Systems in Very High Densities

Systems of Systems Approach to Development

Life Cycle Management Focus

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Deputy for Systems Acquibition
Tactical Wheeled Vehicles Conference

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Deputy for Systems Acquisition COL (P) John M. Urias

ank-automotive & rmaments Committed to Excellence





Full Spec

Dominani Manauvar

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Army Vision 2010 Joint Vision 2010
Sustain
the Force

Foursed Logistics

Engagemen Precision







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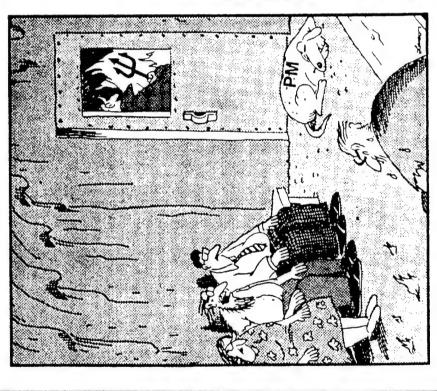
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Force 21 JV2010 90's Build Down The Support Horizon **Div 86**

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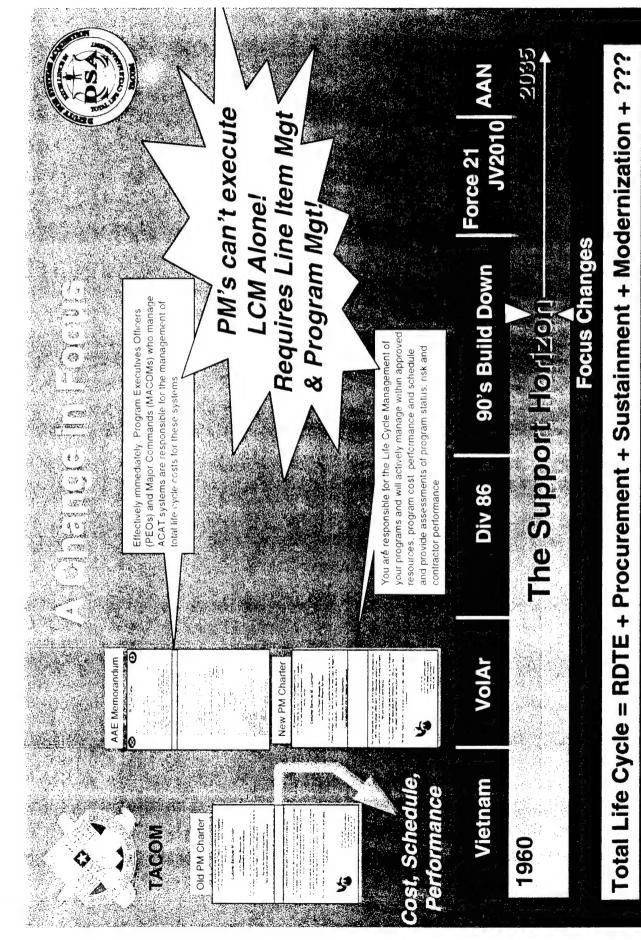






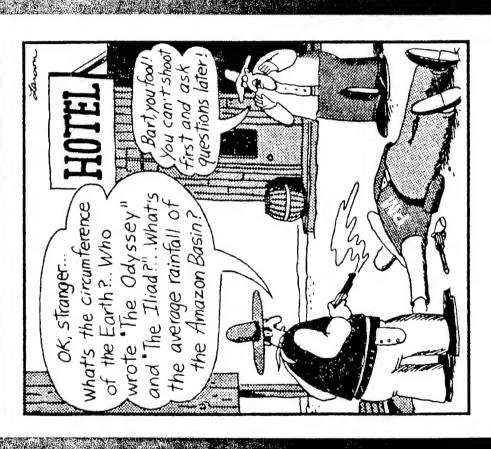
"His story? Well, I dunno. ... I always assumed he was just a bad dog."

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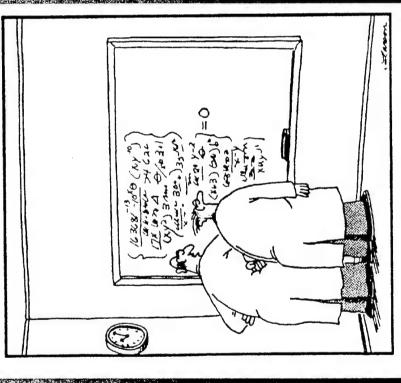
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Changing And Evolving User Requirements CONTINUALE **Modernize the Fleet**





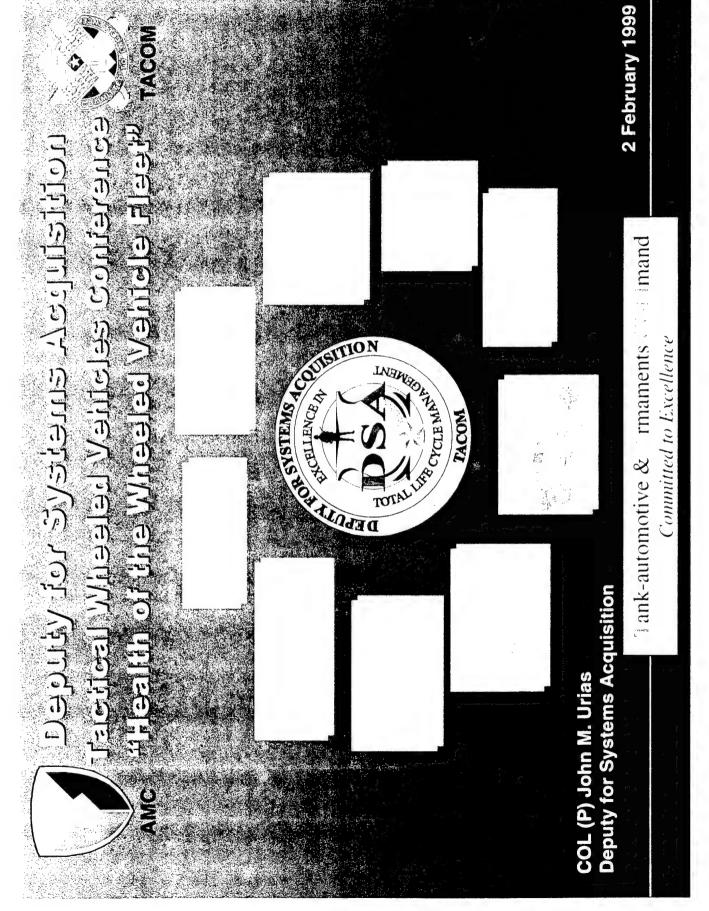
"No doubt about it, Ellington—we've mathematically expressed the purpose of the universe. God, how I love the thrill of scientific discovery!"

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- of Moscilla and and anticipation Base
- Continued use of Government/Industry Partnering Arrangements
- Total Life Cycle Focus







HEMTT

Requirements

- AAO: 13,602
- Procured to Date: 12,578

Status

- OSD Pilot: PM Oversight of Product Support
 - **LHS Acceleration**
- **ESP Startup**
- Fleet Readiness Marginal

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Requirements

- AAO: 2,554
- Procured to Date: 1,950

STatus

- Tech Insertion Program
- **System Concept**

PLS-E

AAO: 4,764

Requirements

Procured to Date: 3,298

- Applications Continue to Grow Engineer Mission Module
- Heavy Dry Support Bridge
 - Launcher
- Forward Repair System (FRS) Fuel and Water
 - **FRS Acceleration**





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M915

Requirements

- AAO: 6,956
- Procured to Date: 0 (171 on Contract)

Status

- 171 Kits on Contrac

- AAO: 2,736
- Procured to Dates

Status

 Additional Procurement on Next **Generation Contract**

Requirements

- AAO: 6,956
- Procured to Date: 5,004

- 440 A3s will go on Contract 2Q99
 - M915-Next Generation Targeted for Contract 2000

Requirements

- AAO: 1,060
 Procured to Date: 307 Received/ 665 on Contract

Status

Currently Being Fielded







(COM

Requirements

- **AAO: 330**
- Procured to Date: (M878A2s) 33 Basic 162 A1s

Status

 Replacing all Existing (Buying 333) due to 25 Years age w/ Life Expectancy of 10 Years

Requirements

- AAO: 32,000
- Procured to Date: 32,000 (approx) We won't buy anymore

Status

To Enhance Safety and Diminish
 Operations Errors, we are Installing ABS
 Brakes and Replacing Bias Ply Tires with Radial

FWTD

Requirements

- AAO: 121
- Procured to Date: 0

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Requirements

- AAO: 121,692 (45,474 FP1&2; 76,218 FP3&4)
- Procured to Date: Total: 135,579
 USMC: 18,582
 USAF: 3,790
 Navy:

585

FMS: 9,769 Army: 102,853

Status

- Aging Fleet
- Continued HMMWV Production
- Increased Payload Demands
- Fleet Modernization Plan Being Implemented
- Corrosion Prevention Pkg in Prod Vehicles
- **USMC Replacing Fleet with new Prod Vehicles**

Requirements

- AAO: 29,554 (13,140 FP1&2; 16,414 FP3&4)
- Procured to Date: 6,077

Status

- Correct Technical Issues
- Field in Priority
- Competitive Rebuy to Performance Requirement
 - Customer Requirements Increasing

ASV

Requirements

- AAO: 1,794 (810 FP1&2; 984 FP3&4)
- Procured to Date: 4 Prototypes

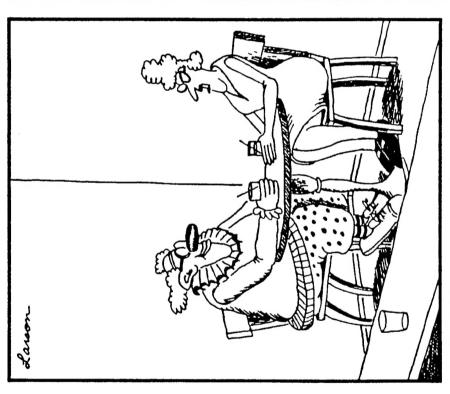
Status

- Entering Production
- Concern for Weight & Cost of Armor
- Remote Turret
- Increased Emphasis on Digitization

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"And I like honesty in a relationship. ... I'm not into playing games."

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OVERALL ALL FLEETS IN GOOD SHAPE

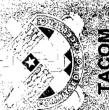
HEAVY BUEET - COMMERCIAL DESIGN

NEAR-TIERM	MIDSTERM	FAR-TERM
FY 99-05	FY 06-15	FY 15-25
7		

ASSETS MEET REQUIREMENTS - OVER AGE OK

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TANDER AMBER

FP 1& 2 OK OVERAGE **REQUIREMENTS** NOT OVER AGE **ASSETS MEET**

OVERAGE

FP 1&2 OK

TRAILIBRS

FAR-TUBRM FY 15-25 MID-TERM FY 06-15 NEAR-TERM FY 99-05 **AMBER**

SHORTAGE

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- Overall Health of the Tactical Wheeled Fleet is Adequate, however Fleets are aging.
- irements of JV2010 & AAN Innovative Modernization Strategies are required to meet minimise.

6/6

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